



EUROPEAN COMMISSION  
HEALTH & CONSUMERS DIRECTORATE-GENERAL

Unit G5 - Veterinary Programmes

**SANCO/10771/2012**

*Programmes for the eradication, control and monitoring of certain  
animal diseases and zoonoses*

## **Survey programme for Avian Influenza (AI)**

**Approved\* for 2012 by Commission Decision 2011/807/EU**

**Denmark**

\* in accordance with Council Decision 2009/470/EC

# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

## 1. Identification of the programme

Member state : DANMARK

Disease : avian influenza in poultry and wild birds

Request of Community co-financing from beginning of:

2012

to end of

2012

### 1.1 Contact

Name : Birgitte Beck Jørgensen, Danish Veterinary and Food Administration

Phone : +45 72 27 65 22

Fax : + 45 72 27 65 01

Email : brb@fvst.dk

## 2. Description of the surveillance programme in poultry

### 2.1 Objectives of surveillance programmes

(max. 32000 chars):

The objectives for the active surveillance programme for avian influenza (AI) in poultry in 2012 will be:

- a) Detecting low pathogenic avian influenza (LPAI) of subtypes H5 and H7 in gallinaceous birds thereby complementing other existing early detection systems.
- b) Detecting LPAI of subtypes H5 and H7 and highly pathogenic avian influenza (HPAI) in domestic waterfowl (ducks, geese and mallards for re-stocking supplies of game).

### 2.2 Design, implementation and target population

(max. 32000 chars):

Requirements and criteria stated in Commission Decision of 25 June 2010 (2010/367/EC) on the implementation of surveillance programmes for avian influenza in poultry and wild birds will be

# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

complied with.

Risk based surveillance will be implemented for the entire Denmark. Commercial holdings with more than 100 animals in a target population will be included and tested once or more frequently.

The target populations will be:

- a) chicken breeders
- b) laying hens
- c) free range laying hens
- d) free range broilers
- e) fattening turkey
- f) duck breeders
- g) fattening ducks
- h) geese breeders
- i) fattening geese
- i) farmed game birds (gallinaceous)
- j) farmed game birds (waterfowl)

All laboratory results from the surveillance will be transferred to a poultry database at the Danish Meat Association, where the results are recorded. The DVFA has on line access to the database. Positive results are also send by e-mail directly from the National Veterinary Institute to the DVFA and the regional veterinary and food administration centres.

## 2.2.1 Risk based surveillance (RBS)

(max. 32000 chars) :

By virtue of its geographical location, Denmark is a node on migration routes for many waterfowl that breed in particular Scandinavia, Russia and Siberia and winters in Europe and Africa. The shallow inlets and marine areas are important feeding areas, which are ice-free in most winters and several waterfowl are wintering. Denmark is therefore identified as a high risk area where preventive measures against AI in poultry holdings according to Commission Decision 2005/734/EC are in force all year round. In relation to the surveillance programme in poultry additional risk areas are defined as areas 3 km from the coastal line and around large lakes.

Commercial holdings with more than 100 animals in a target population will be included and tested once or more frequently according to the following programme:

Hens:  
Breeding flocks

# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

In risk areas: 10 blood samples twice a year from each flock.

Outside risk areas: 10 blood samples once a year from each flock.

Central-rearing and pullet rearing flocks

10 blood samples from each flock.

Laying hens

Indoors flocks in risk areas: 10 blood samples twice a year from each flock.

Free range flocks: 10 blood samples four times a year from each flock.

Free range broilers

10 blood samples four times a year from the herd (before slaughter).

Turkeys:

Breeding flocks

In risk areas: 10 blood samples twice a year from each flock.

Outside risk areas: 10 blood samples once a year from each flock.

At the moment there are no such flocks in Denmark.

Fattening turkeys

10 blood samples from each flock before slaughter.

Ducks and geese:

Breeding flocks

In risk areas: 20 blood samples twice a year from each flock.

Outside risk areas: 20 blood samples once a year from each flock.

Free range fattening geese and ducks including mallards

20 blood samples four times a year from the herd (before slaughter).

Farmed game birds:

Mallards

Herds are tested four times during the season:

First test: 20 blood samples from breeding animals before initiation of egg laying.

Second test: 10 killed, 2 weeks old ducklings from the first batch (tested by PCR-test).

Third test: 10 killed, 2 weeks old ducklings from the intermediate batch (tested by PCR-test).

Fourth test: 10 killed, 2 weeks old ducklings from the last batch (tested by PCR-test).

Pheasants and partridges

Herds are tested four times during the season:

First test: 10 blood samples from breeding animals before initiation of egg laying.

Second test: 10 killed, 2 weeks old chickens from the first batch (tested by PCR-test).

Third test: 10 killed, 2 weeks old chickens from the intermediate batch (tested by PCR-test).

Fourth test: 10 killed, 2 weeks old chickens from the last batch (tested by PCR-test).

Herds with trade of poultry and farmed game birds:

# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

If the herd has not been involved in a regular quarterly sampling scheme, the herd has to be tested before sale.

From herds with more than 100 animals at the time of trade:

1) From hens, turkeys, pheasants and partridges: 10 blood samples.

2) From geese and ducks including mallards: 20 blood samples.

The herds test result is valid up to three months and two months for game birds.

## 2.2.2 Surveillance based on Representative Sampling

(max. 32000 chars) :

Not applicable.

## 3. Target populations

(max. 32000 chars) :

The target populations will be:

- a) chicken breeders
- b) laying hens (indoor flocks in risk areas)
- c) free range laying hens
- d) free range broilers
- e) fattening turkey
- f) duck breeders
- g) fattening ducks
- h) geese breeders
- i) fattening geese
- i) farmed game birds (gallinaceous)
- j) farmed game birds (waterfowl)

## 4. Risk-based surveillance (RBS) method

# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

## 4.1 Criteria and Risk factors

### 4.1.1 Criteria and risk factors for virus introduction into poultry holdings due to direct or indirect exposure to wild birds in particular those of identified 'target species'

(max. 32000 chars) :

The criteria and risk factors (a) - (e)\* are indicated under each target population, see also point 2.2.1:

- a) chicken breeders: (a), (b), (c)
- b) laying hens (indoor flocks in risk areas): (a), (b), (c)
- c) free range laying hens: (a), (b), (c), (d)
- d) free range broilers: (a), (b), (c), (d)
- e) fattening turkey: (a), (b), (c)
- f) duck breeders: (a), (b), (c)
- g) free range fattening ducks: (a), (b), (c), (d)
- h) geese breeders: (a), (b), (c)
- i) free range fattening geese: (a), (b), (c), (d)
- i) farmed game birds (gallinaceous): (a), (b), (c), (d)
- j) farmed game birds (waterfowl): (a), (b), (c), (d)

\*

(a) The location of the poultry holding in proximity to wet areas, ponds, swamps, lakes, rivers or sea shores where migratory wild water birds may gather.

(b) The location of the poultry holding in areas with a high density of migratory wild birds, in particular of those birds that are characterised as "target species" (TS) for HPAI H5N1 detection and listed in Part 2 of Annex II.

(c) The location of poultry holding in proximity to resting and breeding places of migratory wild water birds, in particular where these areas are linked through migratory birds' movements to areas where HPAI H5N1 is known to occur in wild birds or poultry.

# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

(d) Poultry holdings with free range production, or poultry holdings where poultry or other captive birds are kept in the open-air in any premises in which contact with wild birds cannot be sufficiently prevented.

(e) Low biosecurity level in the poultry holding, including the method of storage of feed and the use of surface water.

## 4.1.2. Criteria and risk factors for virus spread within poultry holdings and between poultry holdings, as well as the consequences (impact) of the spread of avian influenza from poultry to poultry and between poultry holdings

(max. 32000 chars) :

The criteria and risk factors (a) - (e)\* are indicated under each target population (category):

a) chicken breeders: (d), (e)

b) laying hens (indoor flocks in risk areas): (e)

c) free range laying hens: (b), (e)

d) free range broilers: (d)

e) fattening turkey: (d)

f) duck breeders: (b), (e)

g) free range fattening ducks: (b), (d)

h) geese breeders: (b), (e)

i) free range fattening geese: (b), (d)

i) farmed game birds (gallinaceous): (b), (d), (e)

j) farmed game birds (waterfowl): (b), (d), (e)

\*:

# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

- (a) The presence of more than one poultry species in the same poultry holding, in particular the presence of domestic ducks and geese together with other poultry species.
- (b) The type of poultry production and the poultry species on the holding for which surveillance data have shown an increased detection rate of avian influenza infection in the Member State, such as duck holdings and poultry intended for re-stocking supplies of game (in particular farmed mallards).
- (c) The location of the poultry holding in areas with high densities of poultry holdings.
- (d) Trade patterns, including imports and related intensity of movements, both direct and indirect, of poultry and other factors including vehicles, equipment and persons.
- (e) The presence of long lived poultry categories and multi-age groups of poultry on the holding (such as layers).

## 4.2. Targeting of populations at risk

(max. 32000 chars) :

The DVFA consider the inclusion of game birds for restocking in the programmes to be very important, due to the fact that especially mallards are known to be asymptomatic carriers of avian influenza virus.

Evaluation of previous data from the Danish programme indicates that game bird holdings, which are tested 4 times during the breeding season, may be tested negative for LPAI subtype H5 or H7 in the first serological test (which is performed on breeding animals) but may test positive in one of the following routine tests in offspring (offspring are tested with PCR). The strategy with multiple samplings of game bird holdings has been justified as Denmark during the summer 2006 detected LP H5 on three locations in the last of the four samplings. This strategy will be continued.

However, in relation to co-financing the estimated number of PCR-tests in offspring are not included in this application.



# *Standard requirements for the submission of surveillance programmes for avian influenza*

*version : 2.1*

## *4.3. Targeting of poultry holdings to be sampled*

*(max. 32000 chars) :*

Commercial holdings with more than 100 animals in a target population will be included and tested once or more frequently, see point 2.2.1.

In relation to co-financing only the number of holdings to be sampled according to Annex 1, table 1 and table 2 in Commission Decision 2007/268/EC are stated in tables 5.1 and 5.2, rather than the total number of holdings to be sampled, under here PCR-tests of samples from game birds offspring, to be tested according to the Danish AI surveillance programme.

# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

## 5. Poultry holdings to be sampled

### 5.1 Poultry holdings (except ducks, geese and mallard) to be sampled according to table 1 of Annex 1 to Decision 2010/367/EU

Category : Free range broilers

delete this category

NUTS (2) (a)	Total number of holdings	Total number of holdings to be sampled	Number of samples per holding	Total number of tests to be performed per method	Method of laboratory analysis
NUTS 2	12	12	10	240	Haemagglutination-inhibition-test (HI)
<b>Total</b>	12	12		240	
<i>(a) Refers to the location of the holding origin. In case NUTS 2 (Nomenclature of Territorial Units for Statistics) can not be used, coordinates (longitude/latitude) are requested. Please fill-in these values directly in the field.</i>					

Add a new row

Category : Fattening turkey

delete this category

NUTS (2) (a)	Total number of holdings	Total number of holdings to be sampled	Number of samples per holding	Total number of tests to be performed per method	Method of laboratory analysis
NUTS 2	46	35	10	700	Haemagglutination-inhibition-test (HI)

X

# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

<b>Total</b>	46	35	700	
<i>(a) Refers to the location of the holding origin. In case NUTS 2 (Nomenclature of Territorial Units for Statistics) can not be used, coordinates (longitude/latitude) are requested. Please fill-in these values directly in the field.</i>				

Category : Chicken breeders

**delete this category**

NUTS (2) (a)	Total number of holdings	Total number of holdings to be sampled	Number of samples per holding	Total number of tests to be performed per method	Method of laboratory analysis
NUTS 2	475	60	10	1 200	Haemagglutination-inhibition-test (HI)
<b>Total</b>	475	60		1 200	
<i>(a) Refers to the location of the holding origin. In case NUTS 2 (Nomenclature of Territorial Units for Statistics) can not be used, coordinates (longitude/latitude) are requested. Please fill-in these values directly in the field.</i>					

Category : Laying hens (indoor flocks in risk areas)

**delete this category**

NUTS (2) (a)	Total number of holdings	Total number of holdings to be sampled	Number of samples per holding	Total number of tests to be performed per method	Method of laboratory analysis
NUTS 2	40	35	10	700	Haemagglutination-inhibition-test (HI)
<b>Total</b>	40	35		700	

# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

<b>Add a new row</b>	<i>(a) Refers to the location of the holding origin. In case NUTS 2 (Nomenclature of Territorial Units for Statistics) can not be used, coordinates (longitude/latitude) are requested. Please fill-in these values directly in the field.</i>
----------------------	--

Category : Free range laying hens

**delete this category**

NUTS (2) (a)	Total number of holdings	Total number of holdings to be sampled	Number of samples per holding	Total number of tests to be performed per method	Method of laboratory analysis
NUTS 2	117	53	10	1 060	Haemagglutination-inhibition-test (HI)
<b>Total</b>	117	53		1 060	
<b>Add a new row</b>					

*(a) Refers to the location of the holding origin. In case NUTS 2 (Nomenclature of Territorial Units for Statistics) can not be used, coordinates (longitude/latitude) are requested. Please fill-in these values directly in the field.*

Category : Farmed game birds (gallinaceous)

**delete this category**

NUTS (2) (a)	Total number of holdings	Total number of holdings to be sampled	Number of samples per holding	Total number of tests to be performed per method	Method of laboratory analysis
NUTS 2	207	53	10	1 060	Haemagglutination-inhibition-test (HI)
<b>Total</b>	207	53		1 060	
<b>Add a new row</b>					

*(a) Refers to the location of the holding origin. In case NUTS 2 (Nomenclature of Territorial Units for Statistics) can not be used, coordinates (longitude/latitude) are requested. Please fill-in these values directly in the field.*

# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

**Add a category**

## 5.2 Ducks, geese and mallard holdings to be sampled according to table 2 of Annex I to Decision 2010/367/EU

NUTS (2) (a)	Total number of duck and geese holdings	Total number of duck and geese holdings to be sampled	Number of samples per holding	Total number of tests to be performed per method	Method of laboratory analysis
NUTS 2	133	80	20	3 200	Haemagglutination-inhibition-test (HI)
<b>Total</b>	133	80		3 200	
<b>Add a new row</b>					

*(a) Refers to the location of the holding origin. In case NUTS 2 (Nomenclature of Territorial Units for Statistics) can not be used, coordinates (longitude/latitude) are requested. Please fill-in these values directly in the field.*

## 6. Frequency and period for testing

(max. 32000 chars) :

Se point 2.2.1

# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

## 7. Laboratory testing

*Description of the used serological tests : (max 32000 chars)*

Serological tests will be carried out using haemagglutination inhibition test (HI test) in accordance with the avian influenza diagnostic manual (Commission Decision 2006/437/EC). The antigens and control sera will be received from the Community Reference Laboratory. Using four HA units of antigen in the tests, sera with titres equal to or above 16 (4 log<sub>2</sub>) will be considered positive.

The virus strains provided by the Community Reference Laboratory will be used as antigen in the initial test. Samples that are positive in tests with the initial antigen will be subjected to a further confirmatory test with the recommended strain for the specific H-subtype. A serum sample will be considered positive only if HI titres were equal to or above 16 with both anti-gens of the same subtype.

## 8. Description of the surveillance programme in wild birds

### 8.1 Objectives of surveillance

*(max 32000 chars)*

The objectives of the surveillance programme for avian influenza will be the timely detection of HPAI of the subtype H5N1 in wild birds in order to protect poultry in poultry holdings and safeguard veterinary public health.

# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

## 8.2 Surveillance design

(max. 32000 chars) :

Requirements and criteria stated in Commission Decision of 25 June 2010 (2010/367/EC) on the implementation of surveillance programmes for avian influenza in poultry and wild birds will be complied with.

- a) A risk-based surveillance will be implemented as a 'passive' surveillance system by laboratory investigation of moribund wild birds or birds found dead and specifically directed towards water bird species.
- b) Wild birds, in particular migratory water birds, that have been shown to be at a higher risk of becoming infected with, and transmitting the HPAI H5N1 virus, the 'target species', will be specifically targeted.
- c) Areas close to the sea, lakes and waterways where birds are found dead; and in particular when these areas are in close proximity to poultry holdings, especially in areas where there is a high density of poultry holdings, will be targeted.

All laboratory results from the surveillance will be recorded at a database at the National Veterinary Institute. The DVFA has on line access to the database. Positive results are also send by e-mail directly from the National Veterinary Institute to the DVFA and the regional veterinary and food administration centres. The results of the surveillance is also available to the public at the DVFA homepage.

The surveillance programme can be adjusted, if the epidemiological situation changes.

## 8.3 Sampling procedures

max 32000 chars :

Procedures stated in the Diagnostic Manual (Commission Decision 2006/437/EC) will be complied with.

# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

## 8.4 Laboratory testing

*max 32000 chars :*

National Veterinary Institute is the National Reference Laboratory (NRL) for the diagnosis of AI. The NRL performs all serological and virological diagnostic analyses for AI in Denmark. Virological tests will be performed according to methods required by the Diagnostic Manual (Decision 2006/437/EC).

The primary diagnostic procedures will be based on real-time-RT-PCR or RT-PCR methods, but will also include virus isolation by inoculation in SPF embryonated eggs. The methods conform to the methods required by with the Diagnostic Manual.

The specific RT-PCR analysis for general influenza A applied primers are specific to the viral matrix (M) gene. The H5 and H7 specific analyses apply primers, which only detects the viral haemagglutinin (HA) gene of the H5 and H7 subtypes, respectively.

Samples from dead or sick wild birds:

Analyses for general influenza virus (M-gene) and specific H5 subtype RT-PCR detection are performed on all samples received for influenza diagnosis.

- 1) If a sample is tested positive in general and negative for H5, a supplementary H7 analysis is performed.
- 2) If a sample is detected positive for H5 or H7 the RT-PCR product is sequenced for confirmation of the H5 or H7 subtype and for characterisation of the virus in terms of pathogenicity.
- 3) If a sample is positive by the M-gene RT-PCR the sample is inoculated in SPF embryonated eggs.

Virus cultivation utilise 8-10 days old embryonated SPF eggs, which are inoculated by the allantoic route. The eggs are incubated for one week and the harvest of allantoic fluid is tested for presence of haemagglutinating viruses. Agglutinating viruses are H-typed by HI test. In addition, identification of RT-PCR and sequencing is carried out in accordance with the above description.

A final characterisation of a virus isolate is done by conventional neuraminidase test (N-typing). In addition, a N-1 specific RT-PCR method may be applied to samples collected either directly from sick or dead birds or harvested from inoculated SPF embryonated eggs.



# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

## 8.5. WILD BIRDS - Investigation according to the surveillance programme for avian influenza in wild birds set out in

Annex II to Decision 2010/367/EU

NUTS (2) code/region (a)	Wild birds to be sampled	Total number of birds to be sampled	Estimated total number of samples to be taken for active surveillance	Estimated total number of samples to be taken for passive surveillance
NUTS 2	Dead or sick birds	300	0	300
<b>Total</b>		300	0	300
<b>Add a new row</b>				

*(a) Refers to the place of collection of birds/samples. In case NUTS 2 (Nomenclature of Territorial Units for Statistics) can not be used, region as defined in the programme by the Member State is requested. Please fill-in these values directly in the field.*

## 9. Description of the epidemiological situation of the disease in poultry during the last five years

max 32000 chars :

In 2006, the surveillance of AI in poultry was extended and more intensified than previous programmes. Besides the surveillance programme for poultry, the programmes included game birds for restocking and holdings (with more than 100 animals) trading poultry or game birds. Holdings situated in appointed risk areas were tested more frequently than holdings outside risk areas. During the surveillance, ten flocks or holdings were found to have serologic positive samples. The holdings were managed as holdings under suspicion for avian influenza. However, testing with PCR showed no circulating virus in any of these holdings. Due to routine PCR-testing on offspring from game birds, detection of LPAI was done in three game bird holdings with mallards (one H5N2 and two H5N3) in 2006. These three holdings were all culled due to the detection of LPAI H5. In two of these holdings, the infection was thought to originate from contact with wild birds. In the third holding, the infection most likely originated from indirect contact with one of the other infected holdings. There were no clinical signs in any of these holdings. In spring 2006, one outbreak of HPAI H5N1 was reported in a back-yard flock with clinically diseased and dead birds. The outbreak of HPAI was the first outbreak in poultry ever recorded in Denmark. The outbreak occurred during the epidemic of HP H5N1 in wild birds in the Baltic area. The virus was of the

# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

same type as the one that had previously been detected in wild birds in the area. It was concluded, that the source of infection most likely was wild birds, possibly transmitted by direct contact. However, no direct evidence exists for this hypothesis. This outbreak did not cause any secondary outbreaks, and reoccurrence of HPAI H5N1 in poultry has not been observed since then.

The extended and more intensified surveillance programme in poultry and game birds for restocking has continued since 2006.

In 2007, eight seropositive holdings were managed as holdings under suspicion for avian influenza. However, testing with PCR showed no circulating virus in any of these holdings.

In 2008, seven seropositive holdings were managed as holdings under suspicion for avian influenza. The holdings were investigated and samples for virological examination were taken. One holding was found positive by virological tests. The holding had breeding geese, ducks and mallards. There had been a serological reaction against H5 in the breeding geese. Following an investigation of tracheal and cloacal swabs low pathogenic H7N1 was detected by PCR followed by sequencing in cloacal swabs from the domestic ducks. The most likely source of infection is introduction by wild birds as low pathogenic avian influenza H7N1, with sequence identical with isolates from the domestic ducks, were detected in wild mallards in a nearby lake.

In 2009, three seropositive holdings were managed as holdings under suspicion for avian influenza. However, testing with PCR showed no circulating virus in any of these holdings.

In 2010, five seropositive holdings were managed as holdings under suspicion for avian influenza. The holdings were investigated and samples for virological examination were taken. Two holdings with mallards were found positive with low pathogenic avian influenza H7. The mallards were tested in accordance with the surveillance programme and there had not been clinical signs of disease among the animals. Following an investigation of tracheal and cloacal swabs low pathogenic H7N1 was detected in one of the holding, in the other holding virus isolation was not possible. There was no epidemiological link between the two outbreaks. The most likely source of the two infections is introduction by wild birds.

## 9.1 Measures included in the programme for surveillance in poultry

# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

## 9.1.1 Designation of the central authority in charge of supervising and coordinating the departments responsible for implementing the programme

(max. 32000 chars) :

The central coordination activities at the DVFA are placed in the Animal Health Division. The Animal Health Division coordinates with the the regional veterinary and food administration centres, The National Veterinary Institute and Danish Meat Association.

## 9.1.2 System in place for the registration of holdings

(max. 32000 chars) :

Commercial holdings with poultry like holdings with cattle, pigs, sheep, goats, and commercial holdings with deer, foxes, minks and fish are recorded in a central database, called the Central Husbandry Register (CHR), which is owned by the Ministry of Food, Agriculture and Fisheries. The rules for registration are laid down in Order No. 59 of 18 January 2010 on registration of holdings in CHR. The CHR stores information on the unique holding code, the address and the geographic coordinates of the holding, data on the farmer, number of animals of all species and veterinary information. Commercial poultry farmers are obliged to register their holding in the CHR. Likewise poultry farmers are obliged to report if the holding is closed down. It is voluntary for owners of backyard flocks to register their holding in CHR. However, if outbreaks of HPAI H5N1 occur in wild birds or AIV H5 or H7 in a poultry holding, then it is also mandatory for owners of backyards flocks in zones to register their holding.

## 9.1.3 Data on vaccination carried out

# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

(max. 32000 chars) :

In Denmark it is prohibited to vaccinate against avian influenza except susceptible birds kept in zoos, which can be vaccinated according to Commission Decision 2007/598/EC concerning measures to prevent the spread of highly pathogenic avian influenza to other captive birds kept in zoos and approved bodies, institutes or centres in the Member States.

However no birds in zoological gardens are included in the programme for poultry AI-surveillance. Zoological gardens are regarded as permanent quarantines, where birds are kept isolated from other poultry and captive birds in Denmark.

## 10. Description of the epidemiological situation of the disease in wild birds during the last five years

(max. 32000 chars) :

The first screening programme for AI in wild birds in Denmark was carried out in autumn 2002, and was performed on samples taken in connection with an epidemiological investigations of a Newcastle disease outbreak in Denmark. In 2003 - 2005 the surveillance programmes consisted of samples of bird droppings from wild live birds collected at different locations in Denmark. From 2006 - 2010 the surveillance programme consisted of a passive surveillance in wild birds found dead and an active surveillance of live birds in waterfowl reservoirs and along migratory flyways, birds living in proximity to domestic poultry and surveillance of hunted game birds. In the active surveillance samples were taken as cloacal and tracheal swabs from each bird. The results from the surveillance programmes shows that the low pathogenic forms of avian influenza occurs naturally among Danish waterfowl, especially in ducks.

During the spring of 2006, an epidemic of HP H5N1 in wild birds occurred in the Baltic area. In Denmark the first finding of HPAI H5N1 in wild birds was confirmed on 14 March 2006. A sequence analyses revealed that the virus isolated in Denmark was similar to the viruses found in other European countries. In total, 44 wild birds were found infected with HPAI H5N1 in six counties in March-May of 2006. The last case was confirmed on 29 May. In total, 1190 dead birds were examined in 2006. The dead wild birds were sent in from the whole country but the positive findings were concentrated in the

# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

southeastern part of Denmark especially along the Baltic Sea. The infected birds were found in areas where the density of wild ducks and swans is normally high in winter/early spring. Since 2006 , HP H5N1 has not been detected in wild birds in Denmark.

## 10.1 Measures included in the programme for surveillance in wild birds

(max. 32000 chars) :

Please see below.

### 10.1.1 Designation of the central authority in charge of supervising and coordinating the departments responsible for implementing the programme

32max. 32000 chars) :

The DVFA is the central authority responsible for implementing the programme. A cooperation will be established with the National Veterinary Institute, Nature Agency, the Zoological Museum and the regional veterinary and food administration centres.

### 10.1.2 Description and delimitation of the geographical and administrative areas in which the programme is to be applied

(max. 32000 chars) :

The programme will cover the whole country.

# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

## 10.1.3 Estimation of the local and/or migratory wildlife population

(max. 32000 chars) :

Table showing the local and migratory wildlife population in Denmark:

Species - Total population size

Widgeon - 1500000

Teal - 500000

Mallard - 4500000

Pintail - 60000

Shoveler - 40000

Tufted Duck - 1200000

Goldeneye - 1000000-1300000

Common Pochard - 350000

Common Eider - 760000

Greater Scaup - 310000

Great Cormorant - 75000a

Whooper Swan - 59000

Mute Swan - 250000

Bewick's Swan - 20000

Taiga Bean Goose - 70000-90000

# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

Pink-footed Goose - 42000  
Greater White-fronted Goose - 1000000  
Greylag Goose - 500000  
Barnacle Goose - 420000  
Light-bellied Brent Goose - 7000  
Dark-bellied Brent Goose - 200000  
  
Lapwing - 5100000-8400000  
Golden Plover - 140000-210000  
  
Great Black-backed Gull 180000  
Herring Gull - 1700000-3600000b  
Common Black - 1200000-2250000

a: Subspecies *sinensis* breeders in Denmark

b: Subspecies *argentatus* breeding/wintering i NW-Europe

Waterbird Population Estimates. 2006. Simon Delany and Derek Scott (eds.). Fourth Edition. Wetlands International, Hageningen, The Netherlands.

## 11. Measures in place as regards the notification of the disease

(max. 32000 chars):

All suspicions of AI including poultry showing clinical symptoms of the disease must be reported to the veterinary authorities. Suspicions and outbreaks in poultry will be handled according to Order No. 693 of 21 June 2007 on control of highly pathogenic avian influenza and Order No. 943 of 14 September 2006 on protection measures at the outbreak of low pathogenic avian influenza type H5 or H7 in poultry and other captive birds.

Rules for compensation of farmers with animals, that have to be killed due to infection with AI subtype H5 or H7, are laid down in Order No. 239 of 12 April 1991 concerning expenses and compensation related to eradication and prevention of animal diseases as amended by Order No. 812 of 29 October 1999. The animals are compensated at the market value and the DVFA cover 20% of the estimated loss of profits.

# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

In case the general public find dead birds in nature they have to contact the regional veterinary and food administration centres. If AI is suspected, the birds are collected and brought to The National Veterinary Institute for virological examination. If a wild bird is tested positive for HP H5N1 measures according to Order No. 940 of 14 September 2006 on certain protective measures against highly pathogenic avian influenza in wild birds will be complied with.

## 12. Costs

### 12.1 Detailed analysis of the costs

#### 12.1.1 Poultry

(max. 32000 chars) :

Serological test: HI test for H5 and H7.

Price for laboratory examinations:

Price for one H5 test: 55 DKK = 7,38 Euro

Price for one H7 test: 55 DKK = 7,38 Euro

Exchange rate 31 March 2011: EUR 1 = 7,4567 DKK

#### 12.1.2 Wild birds



# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

(max. 32000 chars) :

Estimated number of dead or sick wild birds to be tested: 300

Total number of PCR tests: 300

Total number of VI tests: 30

Total estimation of expenditure passive surveillance in wild birds:

The estimated total costs for PCR test and virus isolation: 163.500 DKK = 21.926,59 Euro

Exchange rate 31 March 2011: EUR 1 = 7,4567 DKK

# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

## 12.2 Summary of the costs

### 12.2.1 Poultry surveillance

Methods of laboratory analysis	Number of tests to perform per method	Unitary test cost (per method) in €	Total cost (€)
ELISA test	0	0	0
agar gel immune diffusion test	0	0	0
Haemagglutination-inhibition-test (HI) for H5 (specify number of tests for H5)	4 080	7.38	30110.4
Haemagglutination-inhibition-test (HI) for H7 (specify number of tests for H7)	4 080	7.38	30110.4
Virus isolation test	5	96.56	482.8
PCR test	38	63.43	2410.34
<b>Total</b>	<b>8 203</b>		<b>63 113,94 €</b>
<b>Other measures to be covered</b>			
Sampling (cf. Commission Decision 2010/712, art. 8, point 2, a)	4 080	0.5	2040
			<b>Add a new row</b>
<b>Total</b>	0		2 040,00 €

# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

## 12.2.2 Wild bird surveillance

Methods of laboratory analysis	Number of tests to perform per method	Unitary test cost (per method) in €	Total cost (€)
Haemagglutination-inhibition-test (HI) for H5/H7	0	0	0
Virus isolation test	30	96.56	2896.8
PCR test	300	63.43	19029
Other please specify here	0	0	0
<b>Total</b>	330	159,99 €	21 925,80 €
<b>Other measures to be covered</b>			
Sampling (cf. Commission Decision 2010/712, art. 8, point 2, a)	300	5	1500 <b>X</b>
			<b>Add a new row</b>
<b>Total</b>	300	5,00 €	1 500,00 €

# Standard requirements for the submission of surveillance programmes for avian influenza

version : 2.1

## Attachments

### IMPORTANT :

- 1) The more files you attach, the longer it takes to upload them .
- 2) This attachment files should have one of the format listed here : [.zip](#), [.jpg](#), [.jpeg](#), [.tiff](#), [.tif](#), [.xls](#), [.doc](#), [.bmp](#), [.pna](#).
- 3) The total file size of the attached files should not exceed 2 500Kb (+- 2.5 Mb) . You will receive a message while attaching when you try to load too much.
- 4) IT CAN TAKE **SEVERAL MINUTES TO UPLOAD** ALL THE ATTACHED FILES. Don't interrupt the uploading by closing the pdf and wait until you have received a Submission Number!
- 5) Zip files cannot be opened (by clicking on the Open button) . All other file formats can be opened.