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HEALTH & CONSUMERS DIRECTORATE-GENERAL

Unit 04 - Veterinary Control Programmes

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

**Survey programme for Avian Influenza in
poultry and wild birds**

Approved* for 2011 by Commission Decision 2010/712/EU

Bulgaria

* in accordance with Council Decision 2009/470/EC

**Program for Eradication : ANNEX 4**

Submission number	1272024641885-144
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Country Geographical English Name	Bulgaria

1. Identification of the programme	
Country Geographical English Name	Bulgaria
Disease	avian influenza in poultry and wild birds
Request co-financing from	2011
Request co-financing to	2011
1.1 Contact	
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2. Description of the surveillance programme in poultry**2.1 Objectives, general requirements and criteria**

The serological surveillance of highly pathogenic Avian Influenza subtypes H5 and H7 has the following objectives:

- To detect clinical and subclinical infections and to undertake early protection measures for control the spread of the disease and possible mutation of the virus.
- To detect poultry populations infected with H5 and H7, which are susceptible to the disease and are reared in areas where the risk of disease introduction is considered to be higher.
- To prove that a region is free from notifiable avian influenza in the frame of intercommunity trade from 01.01.2008 and in the frame of international trade according to the rules of World Organisation for Animal Health

- General requirements and criteria:
1. The sampling shall not extend beyond 31 December 2011 and shall cover a production period.
 2. Testing of samples shall be carried out at National Reference Laboratory for Avian Influenza under the National Diagnostic and Research Veterinary Institute /NDRVII/, Sofia National Reference Laboratory for Diagnostics of Avian Influenza and Newcastle Disease in Varna.
 3. All results, both serological and virological, shall be sent to the Community Reference Laboratory for Avian Influenza. All isolates positive for Avian Influenza will be submitted to the Community Reference Laboratory for Avian Influenza (OIE), Paris.

2.2 Design and implementation

Serological EXAMINATION for Avian influenza of the following species and birds category:

- Domestic hens, kept in non-commercial holdings or in industrial holdings;
- Domestic birds of the gallinaceous species /breeding stocks, laying hens, turkeys, of ratites/;
- Domestic waterfowls /ducks and geese/;
- Birds, reared and used for hunting (pheasants, partridge, quails, half-savage birds);

2.2.1 Poultry holdings (except ducks and geese) to be sampled

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
laying hens	BG	53	53	20	984	ELISA test
	BG	53	53	20	76	agar gel immune diffusion test
	BG	106	106	40	1,060	
farmed feathered game	BG	4	4	20	80	ELISA test
	BG	4	4	20	80	
farmed feathered game	BG	1	1	20	20	Haemagglutination-inhibition-test (HI)
	BG	1	1	20	20	
turkey breeders	BG	6	6	20	120	Haemagglutination-inhibition-test (HI)
	BG	6	6	20	120	
	Total	117	117	100	1,280	

2.2.2 Duck and geese holdings to be sampled according to point C of Annex I to Decision 2007/268/EC Serological investigation

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
BG	59	59	40	2,360	Haemagglutination-inhibition-test (HI)
Total	59	59	40	2,360	

2.3 Laboratory testing: description of the laboratory tests used

1. Laboratory tests shall be carried out in accordance with the avian influenza diagnostic manual (Commission Decision 2006/437/EC) laying down the procedures for the confirmation and differential diagnosis of avian influenza (including examination of sera from ducks and geese by haemagglutination-inhibition (HI) test).

2.. All positive serological findings shall be confirmed by the National Laboratories for avian influenza by a haemagglutination-inhibition test, using designated strains supplied by the Community Reference Laboratory for Avian Influenza:

H5 (a) initial test using Ostrich/Denmark/72420/96 (H5N2);
 (b) test all positives with Duck/Denmark/64650/03 (H5N7) to eliminate N2 cross reactive antibody.

H7 (a) initial test using Turkey/England/647/77 (H7N7);
 (b) test all positives with African Starling/983/79 (H7N1) to eliminate N7 cross reactive antibody.

3. Description of the surveillance programme in wild birds

3.1 Objectives, general requirements and criteria

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• A. Objectives:

Virological surveillance for avian influenza in wild birds aim to identify the risk of introduction of AI viruses (LPAI and HPAI) to domestic poultry by:

- to ensure early detection of HPAI H5N1 by investigating increased incidence of morbidity and mortality in wild birds, in particular in selected 'higher risk' species.
- in the event that HPAI H5N1 is detected in wild birds, then surveillance of live and dead wild birds shall be enhanced to determine whether wild birds of other species can act as asymptomatic carriers or 'bridge species' (see table below).
- to continue a 'baseline' surveillance of different species of free living migratory birds as part of continuous monitoring of LPAI viruses. Anseriformes (water fowl) and Charadriiformes (shorebirds and gulls) shall be the main sampling targets to assess if they carry LPAI viruses of H5 and H7 subtypes (which would in any case also detect HPAI H5N1 and other HPAI, if present). 'Higher risk species' must be targeted in particular.

B. General requirements and criteria:

1. Sampling shall not extend beyond 31 December 2011.
2. Testing of samples shall be carried out at National Reference Laboratory for Avian Influenza under the National Diagnostic and Research Veterinary Institute /NDRVI/, Sofia National Reference Laboratory for Diagnostics of Avian Influenza and Newcastle Disease in Varna.
3. All results, both serological and virological, shall be sent to the Community Reference Laboratory for Avian Influenza. All isolates positive for Avian Influenza will be submitted to the Community Reference Laboratory.

3.2 Design and implementation

1. It is necessary the participation of ornithological institutions and organizations responsible for the ringing of birds. Where necessary this must be done under the supervision of these organizations or by the hunters.

2. The active surveillance in living or hunted birds shall be targeted on:

a) populations from different wild birds species presenting a "higher risk" identified on the basis of:

- origin and the migratory flyways;
- the number of the wild birds in the Community;
- the probability of contact with domestic poultry;

b) identification of areas of a higher risk based on:

- mixed sites frequented by high number of different species migratory birds but mostly those in annex 1;
- in proximity to domestic poultry farms;
- location of the migratory flyway;

3. The passive surveillance in wild birds, found dead, should be focused on the presence of increased mortality or outbreaks of acute infectious disease:

/a/ in wild birds listed in p.3.1 and other wild birds in contact with them;

/b/ in areas described p. 2 /b/

Increased incidences of mortality of different bird species concentrated in one place is an additional factor that should be taken into consideration.

A detailed description of the number of samples per villages and the sampling method (virological).

The frequency of the surveillance in the critical points should be identified individually depending on each of the specificity of the critical points and on the type of the disease (infectious agent, sources of the infection, way of transmission, driving forces of the infectious process, incubation period, natural reservoirs, environmental factors, season, agricultural activities and etc .)

The surveillance frequency could be with decreased intensity in regions considered of lower risk.

The National Veterinary Service has prepared model cover letters, according to the European Commission requirements, for submission of the samples to the National Reference Laboratories "Newcastle disease and Avian Influenza A".

3.2.1 WILD BIRDS - Investigation according to the surveillance programme for avian influenza in wild birds set out in Annex II to Decision 2007/268/EC

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
BG413	20	20	15	5
BG341	60	60	40	20
BG331	45	45	40	5
BG321	10	10	10	0
BG311	50	50	40	10
BG313	15	15	10	5
BG322	20	20	15	5
BG332	40	40	30	10
BG415	55	55	45	10
BG425	30	30	25	5
BG315	20	20	15	5
BG312	40	40	30	10
BG423	85	85	65	20
BG414	20	20	15	5
BG314	20	20	15	5
BG421	60	60	45	15
BG324	20	20	15	5
BG323	30	30	25	5
BG325	25	25	20	5
BG342	40	40	30	10
BG324	20	20	15	5
BG412	10	10	10	0
BG344	40	40	30	10
BG334	30	30	25	5
BG422	85	85	65	20
BG333	30	30	25	5
BG343	30	30	25	5
Total	#SYNTAX	950	740	210

3.3 Laboratory testing: description of the laboratory tests used

The diagnostics is carried as per the following methods:

1. Virus isolation in chick embryos as per the routine procedures for testing of samples from faeces or oro-tracheal swabs.
2. Detection of the nucleic acids of the viruses of Avian Influenza and Newcastle disease through real-time reverse transcriptase Polymerase Chain Reaction assay.
3. Identification of the isolated virus through agar gel precipitation test for avian influenza virus and haemagglutination inhibition test for paramyxovirus.
4. Characterization of the Newcastle disease isolated viruses for identification the type of the strains - velogenic, mesogenic or lentogenic through biological tests: determining the mean death time of 10 days-old chick embryos, determining of intracerebral pathogenicity index in day-old chickens and in case of necessity sending of material for genetic analyses to an international reference laboratory sending of material for genetic analyses to an international reference laboratory.

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

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

Each year since 2000, the NVS has been implementing an annual AI Surveillance Programme in poultry.

Measures included in the programme for poultry surveillance:

- Observation of health status of the poultry kept in the poultry farms of intensive mode of keeping /the large poultry holdings/;
- Observation of health status of the poultry kept in backyards;
- Testing of samples taken from the birds kept in all regions of the country considered to be of higher risk with regards to AI;
- Testing of poultry carcasses collected in case of mortality rates higher than the normal poultry ones;
- Strict control on the movements of poultry and poultry products;
- Thorough disinfection of transport vehicles entering into the country from third countries;
- Control on the implementation of bio-security measures.

Epidemiological situation in birds throughout the last 5 years:

During the last 5 years not a single case of highly pathogenic Avian influenza (HPAI) has ever been identified in poultry populations in Republic of Bulgaria.

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

The NVS of Bulgaria is the national competent authority responsible for the implementation of the AI Surveillance Programme.

This Programme is directly performed by registered veterinarians exercising private practice /registered private practitioners/ under the control of the official veterinarians directly responsible for all the country municipalities located within the 28 administrative districts (= 28 veterinary regions) of Bulgaria.

The outcomes of implementation of the AI Surveillance Programme are reported in writing on monthly basis by the 28 "Animal Health" Department Chiefs (with the 28 Regional Veterinary Services) to the "Animal Health" Directorate at the NVS Central Administration.

Each week the National reference Laboratory send information, regarding the samples from the Surveillance Programme to the Animal Health Directorate in the National Veterinary Service.

4.1.2 System in place for the registration of holdings

All poultry holdings (including backyard poultry) are registered and have an identification number according to the Law of veterinary activity.

4.1.3 Data on vaccination carried out

The prophylactic vaccination against Avian Influenza is prohibited. In Republic of Bulgaria the vaccination against the disease was never carried on.

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

Each year since 2000, the NVS has been implementing an annual AI Surveillance Programme in wild birds.

Measures included in the programme for wild birds surveillance:

- Monitoring of the wild birds migration;
- monitoring of the mortality in wild birds;
- capture and taking samples from wild bird;
- survey and laboratory testing of samples from wild birds;

Epidemiological situation in wild birds throughout the last 5 years:

AI in poultry has never been found out up to 31.01.2006:

On 31.01.2006 in river Danube near the town of Vidin a sick swan was found. AI virus, strain H5 was isolated from the swan at the National Reference Laboratory on AI in Sofia. The isolate was sent to Central Reference Laboratory of the European Community in Waybridge, Great Britain and on 10.2.2006 the isolate was confirmed as influenza A H5N1;

On 09.02.2006 in samples taken from dead swans found in the lake of Durankulak, region of Dobrich, a virus was isolated determined as influenza of the type A-H5;

On 09.02.2006 virus H5N1 was isolated from a dead swan found out in the dam Tzonevo, region of Varna.

On 11.02.2006 a virus of influenza H5 was confirmed in dead swan found out on the beach of Karimorie residential quarter, town of Burgas.

On 08.02.2008 a Low pathogenic avian influenza virus H7N7 was confirmed in a mallard duck shot near to the village of Han Krum, municipality of Veliki Preslav, administrative district of Shoumen.

5.1 Measures included in the programme for surveillance in wild birds

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

5.1.1 The NVS is the national competent authority responsible for the implementation of the AI Surveillance Programme. The Programme is been performed under the assistance rendered by the local associations of ornithologists and by the local units of the national Union of Hunters and Anglers of Bulgaria.

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

5.1.2 The Programme is been implemented over the territory of the whole country, major share of the total number of samples foreseen therein being taken from all those 10 administrative districts /veterinary regions/ identified as such of higher risk with regards to AI.

5.1.3 Estimation of the local and/or migratory wildlife population

5.1.3 Throughout the whole season of intensive wild bird migration, the "Animal Health" Directorate at the NVS Central Administration would receive the daily information about the numbers and the health status of the wild birds observed.

6. Measures in place as regards the notification of the disease

The Law on Veterinary Activities, Art.124 and Ordinance No.23 / 14.12.2005 on the order and the way of notification and registration of infectious diseases in animals, which is harmonized with Council Directive 82/894/EEC

7. Costs

7.1.1 Poultry

1. Costs related to taking and transportation of samples for testing to diagnostics laboratories
2. Costs for the purchase of the required diagnostics kits
3. Costs for compensations to the owners of compulsively killed or slaughtered birds
4. Costs for remuneration of the labor of the executers of the program

7.1.2 Wild birds

1. Costs related to capture of wild birds
2. Costs related to taking and transportation of samples for testing to diagnostics laboratories
3. Costs for the purchase of the required diagnostics kits
4. Costs for remuneration of the labor of the executers of the program

7.2 Summary of the costs			
7.2.1 Poultry surveillance			
Methods of laboratory analysis	Number of tests to perform per method	Unitary test cost (per method) in €	Total cost (€)
ELISA test	3,158	1.00	3,158.00
agar gel immune diffusion test	234	21.00	4,914.00
Haemagglutination-inhibition-test (HI) for H5 (specify number of tests for H5)	2,160	2.00	4,320.00
Haemagglutination-inhibition-test (HI) for H7 (specify number of tests for H7)	2,160	2.00	4,320.00
Virus isolation test	500	15.00	7,500.00
PCR test	1,000	10.00	10,000.00
Sampling	9,213	1.00	9,213.00
Transport	9,213	1.00	9,213.00
Total	27,638	53.00	52,638.00

7.2.2 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	0.00	0.00
Virus isolation test	550	15.00	8,250.00
PCR test	400	10.00	4,000.00
Other please specify here	0	0.00	0.00
Sampling	950	1.00	950.00
Transport	950	1.00	950.00
Total	2,850	27.00	14,150.00