



submitted for obtaining EU financial contribution

Annex IV: Programme for the surveillance of Avian Influenza in poultry and wild birds

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Document version number: 2022 1.0

Member state : ITALIA

Disease Avian Influenza

This program is multi annual :

Request of Union co-financing from beginning : To end of

Request year for multiannual programme :

1. Contact data

Name Phone

Email Your job type within the CA :

Submission Date

29/11/2022 09:04:17

Submission Number

1669709060310-18863



ANNEX 4 : Standard requirements for the submission of surveillance programmes for avian influenza in poultry and wild birds

2. Description and implementation of the surveillance programme in poultry

2.1.1 Designation of the authorities in charge of supervising coordinating and implementing the programme. Please describe in details who designs, who implements, and who monitors the programme in poultry. (Roles of central authority, local authorities, vets, farmers, labs, hunting associations, etc.)

(max. 32000 chars) :

The Ministry of Health (MoH), Directorate-General for animal health and veterinary medicinal products (DGSAF) - Office 3, shall design, coordinate and monitor the activities provided for in the National Surveillance Plan for Avian Influenza, with the scientific and technical support of the National Reference Laboratory for Avian Influenza and Newcastle Disease (NRL IA & ND), hosted at Istituto Zooprofilattico Sperimentale delle Venezie (IZSVe).

The Regional Veterinary Services (RVS) of the 19 Regions and 2 Autonomous Provinces, which are responsible for food of animal origin, animal health and welfare and feed safety, shall carry out the activities of the Plan through the Local Health Units (LHU-AUSL). LHU-AUSL act as public bodies responsible for the organization and management of all public health facilities at local level and will be responsible of implementing the surveillance sampling protocols in domestic poultry.

2.1.2 Description of System in place for the registration of holdings

(max. 32000 chars) :

According to Ministerial provision of 13 November 2013 modified with co. 510, article 1 of the Law n. 205/2017, all commercial poultry farms and all backyard holdings with more than 50 animals, must be registered with the LHU-AUSL. Information on birds (e.g. species, number of birds, productive type), holders and owners (e.g. name, surname, name of the owning company, contact address and phone number) shall be collected for each commercial poultry farm and entered in the National Livestock Registry, an online database which is regularly updated by the LHU-AUSL. An unambiguous identification code (consisting of the letters IT followed by 8-digits alphanumeric code) is then assigned to each commercial poultry farm. For the backyard farms, intended as any private premises in which poultry is kept exclusively for self-consumption, the registration in the National Livestock Registry database requires fewer information, with indication of the owner's personal data, poultry species bred and the location of the farm, which will be followed by the generation of a company code. The veterinary competent authority can request the registration in the National Livestock Registry also of backyard poultry farms housing less than 50 animals.

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2.1.3 Design (risk based surveillance, or surveillance based on representative sampling taking into account criteria in Annex II of Commission Delegated Regulation (EU) 2020/689.

Provide justification for the choice of the design. Please refer also explicitly to the objectives of the surveillance programme as mentioned in section 2 of Annex II Commission Delegated Regulation (EU) 2020/689.

(max. 32000 chars) :

The Italian national surveillance programme for avian influenza (AI) viruses in poultry is a risk-based, targeted serological survey based on the provisions of and criteria and guidelines laid down in Annex II of Commission Delegated Regulation (EU) 2020/689. As such, the risk-based surveillance (RBS) approach represents an active surveillance framework that complements the early detection - passive surveillance - system for the detection of notifiable avian influenza viruses in domestic poultry.

The choice of an RBS approach has been determined by the assessment at national level of criteria and risk factors listed in Sections 5 and 6 of Annex II, Part I of Commission Delegated Regulation (EU) 2020/689. This includes consideration of relevant risk pathways for infection of poultry flocks (incursion and secondary spread), specifically:

- (i) direct or indirect contact with wild birds, particularly migratory species of waterfowl;
- (ii) direct or indirect contact with infected poultry;
- (iii) between flock movements of poultry, poultry products, personnel and fomites, movements of vehicles.

Briefly, the design of the Italian RBS approach for the AI poultry survey comprises three parts:

1. Analysis of existing guidelines, criteria and risk factors listed in Sections 5 and 6 of Annex II, Part I of Commission Delegated Regulation (EU) 2020/689 with reference to available national data sources on poultry population, and relevant risk factors and risk pathways.
2. Risk matrix: Development of a risk matrix relevant to a RBS plan for the AI in poultry. Following part 1, four specific risk factors were identified for inclusion in the risk matrix, as follows:
 - (i) species and production type (susceptibility and probability of infection according to Busani et al., 2009 doi: 10.1016/j.tvjl.2008.02.013, long-lived poultry);
 - (ii) location of poultry holdings, as an indication of high priority surveillance regions, that were derived by identifying densely populated poultry areas (DPPAs);
 - (iii) proximity to wetlands, which is considered a proxy for presence of wild waterfowl nesting and wintering sites (higher risk of AI incursion via wild birds);
 - (iv) epidemiological situation in the past 5 years (occurrence and characteristics of LPAI and HPAI cases in poultry).
3. Definition of province at-risk of AI: for each risk factor listed above, an estimation of risk level per province has been calculated; the individual risk level have been summed up in order to obtain an overall risk level; provinces have been reclassified based on the overall risk into high, medium and low risk provinces.

For each of the following regions, the provinces identified at higher risk of AI introduction and spread are:

- Emilia Romagna: provinces of Bologna, Ferrara, Forlì-Cesena, and Ravenna;
- Lombardy: provinces of Bergamo, Brescia, Cremona, Mantua;
- Piedmont: province of Cuneo;
- Veneto: provinces of Padua, Rovigo, Venice, Verona and Vicenza;

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the provinces identified at medium risk of AI introduction and spread are:

- Friuli-Venezia-Giulia: provinces of Pordenone and Udine;
- Lazio: province of Viterbo;
- Umbria: provinces of Perugia and Terni;
- Veneto: province of Treviso.

The remaining Italian national territory is considered at low risk.

In high-risk provinces, active surveillance will be implemented on all industrial poultry holdings of the targeted productive categories listed in Section 2.2. In medium risk provinces the number of industrial poultry holdings to be subjected to active targeted surveillance will be based on a representative sampling basis and for the targeted productive categories listed in Section 2.3. In low-risk provinces, only early detection – passive surveillance – system will be implemented.

In order to prevent the introduction and spread of AI in the rural poultry sector, the Ministry of Health issued a special provision D.M. 25/06/2010 (Annex 3). The strategy defined for rural farms is based on stricter biosecurity measures and enhanced monitoring before animal movements (see Section 2.3).

Early detection - passive surveillance - system for identification of highly pathogenic avian influenza notifiable viruses in domestic poultry will complement the RBS framework and will be implemented by all poultry sectors (rural and industrial). This type of surveillance involves prompt, compulsory reporting to the competent authority of suspected mortality or clinical signs, or any change in normal production parameters, feed and water intake, by concerned individuals to their attending veterinarian, the local animal health official, or State animal health official. It differs from active observational surveillance in that it is not an ongoing, scheduled practice. The likelihood of reporting varies with expertise of flock holders, disease awareness, and rate of mortality within the flock, which is strictly dependent on species, productive category, farm management system, sex and age of poultry. Nonetheless, it adds value to the overall AI surveillance system.

The objectives of the Italian avian influenza RBS in domestic poultry are to inform the competent authority of:

- the detection of circulating low pathogenic avian influenza viruses of subtypes H5 and H7 in gallinaceous birds (chickens, turkeys, guinea fowl, pheasants, partridges and quails) and ratites;
- the detection of highly pathogenic avian influenza (HPAI) in poultry species which generally show not significant clinical signs such as ducks, geese and mallards for re-stocking supplies of game (Anseriformes).

The complementary early detection system in domestic poultry aims at informing the competent authority of:

- the detection of HPAI in poultry in an early phase of introduction in the domestic poultry population in order to limit the spread of the disease.

This comprehensive approach (RBS and early detection) will contribute to increase knowledge on HPAI and LPAI viruses posing a potential zoonotic risk.

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2.1.3.1 *Short description of predominant poultry population and types of poultry production.*

Please provide also a table with the number of poultry holdings and birds existing for each poultry type, and map with the geographic distribution and density of poultry holdings. (If not available, please explain)

(max. 32000 chars) :

Ninety percent of Italian poultry companies are organized according to a vertical integration system (e.g. poultry farms owned by the farmer with day-old chicks and feed supplied by private companies). Companies integrating the system own the selection, breeding and egg hatching holdings, as well as feed mills and the poultry itself, which is farmed either in their own farms or in farms belonging to different owners. In addition, to fully keep the poultry market under control, companies also hold slaughterhouses, meat and egg processing facilities, as well as wholesaling services. Those factors have resulted in a higher concentration of poultry farms, especially of highly susceptible species (turkeys, laying hens) in a limited area (Densely Populated Poultry Area - DPPA) in the north of the country in the Po Valley, which stretches along Lombardy, Veneto and Emilia-Romagna regions.

The wetlands in the Po valley harbour a remarkable avian biodiversity and abundance, representing an important crossroads of bird migration routes. These wetlands are located along the Eurasian Anatidae flyway, providing resting and wintering sites for wild ducks and geese migrating south from north and east Europe.

Irrespective of the high background risk, the number of poultry farms and other related establishments in the DPPA has increased irrationally over the past decades, so that this area can be considered a unique epidemiological unit.

Epidemiological situation: at the beginning of 2021 the domestic poultry sector in Italy was only marginally involved in the HPAI H5N8 epidemic, with three positive cases detected between January and February in backyard farms. Despite the effectively practised biosecurity measures and the awareness of the farmers and local veterinary services, later on in 2021, Italy was one of the most affected country in Europe during the HPAI H5N1 epidemic. The 2021–2022 highly pathogenic avian influenza epidemic with a total of 317 reported detections in domestic birds appears to be one of the largest HPAI epidemics that has ever occurred in Italy, second only to the HPAI H7N1 epidemic occurred in Italy back in 1999. It involved mainly fattening establishments of turkeys and chickens in densely poultry populated areas of Veneto and Lombardy regions.

The most updated information on current and past LPAI and HPAI outbreaks in domestic poultry and captive birds and positive cases in wild birds, according to official reporting sources can be found here: <https://www.izsvenezie.com/reference-laboratories/avian-influenza-newcastle-disease/italy-update/>.

The spatial distribution of the poultry species is characterized by a high density of fattening turkeys in Veneto region (in particular the province of Verona), while laying hens for table eggs are more concentrated in Emilia-Romagna region. The most commonly applied poultry breeding system (i.e. the vertical integration system), as well as the intensive rearing of several poultry species, such as chickens, turkeys, guinea fowls, quails and ostriches, for which production circuits are often overlapped, increase the threat of AI spread.

Depending on the species reared, farms could adopt an “all-in all-out” system (broilers, fattening turkeys, breeders) or choose to have continuous productive cycles with periodical terminal disinfection in a productive unit (layers, guinea fowls, capons). The Ministerial provision OM 26 August 2005 and its further modifications (the last one OM 8 aprile 2022 in line with Regulation EU n. 2016/429), provides specific indications on the biosecurity measures to be applied in poultry holdings. Besides, in order to

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categorizing farms based on risk, an integrated system (ClassyFarm, <https://www.classyfarm.it/>) was set up that facilitates and improves collaboration and dialogue between farmers and the competent authority and to raise the level of safety and quality of products in the agri-food chain. ClassyFarm allows the detection, collection and processing of data relating to the following evaluation areas:

- biosecurity;
- animal welfare;
- health and production parameters;
- animal feed;
- consumption of antimicrobial drugs;
- injuries found at the slaughterhouse.

It is an effective tool to strengthen the prevention of animal diseases and the fight against antimicrobial resistance and make official control by the competent authorities more efficient, but at the same time it offers farmers the conditions to improve and strive for excellence.

Annex 2 provide details on the number of holdings per each productive type stratified per region and provinces (updated to 30/04/2022), which are considered for the current surveillance plan. Figure 1 (Annex 1) shows the distribution of the industrial poultry holdings per province.

2.1.3.2 Criteria and risk factors for risk based surveillance (1) Please describe the risk factors as regard the criteria set in Annex II of Commission Delegated Regulation (EU) 2020/689.

(max. 32000 chars) :

The Italian targeted serological surveillance plan for avian influenza has been defined considering the following risk factors:

- location of the poultry holding in proximity to wet areas or in areas characterized by high density of migratory wild birds, in particular those of the target species listed on the EURL website and regularly updated by EFSA (<https://www.izsvenezie.com/documents/reference-laboratories/avian-influenza/useful-resources/wild-bird-target-species-for-passive-surveillance.pdf>);
- the location of the poultry in densely populated poultry areas (DPPAs) and therefore the structure and complexity of the production system and functional connections between establishments;
- structural and managerial characteristics of the poultry productive system;
- past and current epidemiological situation (risk factors for the introduction and spread identified during previous outbreaks);
- type and flow of trading activities;
- productive type (e.g. long productive life poultry species, multi-age or multi-species poultry farm holdings) and biosecurity measures in the industrial poultry holdings;
- presence of free-range poultry holdings and/or premises in which birds have the opportunity to enter in contact with wildfowl (i.e. none or unsuitable barriers);
- the risk assessments and scientific advice issued by the NRL in relation to the relevance of the spread of HPAI by wild birds.

Based on the risk of introduction and/or spread of AI viruses, both industrial and rural poultry holdings are included in the current national surveillance plan.

(1) Including maps showing target sampling sites identified as being particularly at risk for the introduction of avian influenza virus, taking into account criteria set out in Annex II of Commission Delegated Regulation (EU) 2020/689.

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2.2 Target populations

Please explain:

- 1) The strategy of selection of the holdings to be sampled. (Random, risk based, geographic distribution)
- 2) The number of holdings sampled, with regard to the minimum requirements set in Annex II section 9 to Commission Delegated Regulation (EU) 2020/689.
- 3) The number of samples taken in each holding with regard to the minimum requirements set in Annex II section 9 to Commission Delegated Regulation (EU) 2020/689.

(max. 32000 chars) :

In the present national surveillance plan, the following species and productive types will be sampled:

- a) laying hens;
- b) free-range laying hens;
- c) chickens breeders;
- d) fattening turkeys;
- e) turkey breeders;
- f) quail breeders;
- g) guinea fowl breeders;
- h) fattening ducks;
- i) duck breeders;
- j) fattening geese;
- k) goose breeders;
- l) farmed game birds (gallinaceous) adults and breeders;
- m) ratites.

Moreover, growers and rural productive types will be included due to their peculiar characteristics (biosecurity practices and housing conditions), which increase the risk of virus introduction. Broilers and fattening quails are excluded due to their short productive life.

The strategy of selection of the holdings, the number of holdings to be sampled and the number of samples to be taken in each holding are described in detail along with the sampling procedures in Section 2.3

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2.2.1 POULTRY HOLDINGS ^(a) (except ducks, geese and farmed game birds (waterfowl e.g. mallards) to be sampled

Serological investigation according to Annex I to Commission Decision 2010/367/EU

Targets for year

2023

Category : laying hens

delete this category

In the column "Total number of samples", please put 0 if the same samples have already been counted for another laboratory analysis (example : for HI-H5 and HI -H7 test, only 1 sample should be counted)

NUTS (2) (b)	Total number of holdings(c)	Total number of holdings to be sampled	Number of samples per holding	Total number of samples	Total number of tests	Method of laboratory analysis	
ITC1 PIEDMONT (Cuneo provinc +	64	64	20	1 280	1 280	ELISA test	X
ITC1 PIEDMONT (Cuneo provinc +	0	0	0	0	5	HI-test (H5)	X
ITC1 PIEDMONT (Cuneo provinc +	0	0	0	0	5	HI-test (H7)	X
ITC4 LOMBARDY (Bergamo, Bre +	183	183	20	3 660	3 660	ELISA test	X
ITC4 LOMBARDY (Bergamo, Bre +	0	0	0	0	15	HI-test (H5)	X
ITC4 LOMBARDY (Bergamo, Bre +	0	0	0	0	15	HI-test (H7)	X
ITH3 VENETO (Padua, Rovigo +	193	193	20	3 860	3 860	ELISA test	X
ITH3 VENETO (Padua, Rovigo +	0	0	0	0	15	HI-test (H5)	X

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ITH3 VENETO (Padua, Rovigo)	0	0	0	0	15	HI-test (H7)	X
ITH5 EMILIA-ROMAGNA (Bologna)	138	138	20	2 760	2 760	ELISA test	X
ITH5 EMILIA-ROMAGNA (Bologna)	0	0	0	0	11	HI-test (H5)	X
ITH5 EMILIA-ROMAGNA (Bologna)	0	0	0	0	11	HI-test (H7)	X
ITH3 VENETO (Treviso province)	39	35	10	350	350	ELISA test	X
ITH3 VENETO (Treviso province)	0	0	0	0	1	HI-test (H5)	X
ITH3 VENETO (Treviso province)	0	0	0	0	1	HI-test (H7)	X
ITH4 FRIULI-VENEZIA-GIULIA (UD)	13	13	10	130	130	ELISA test	X
ITH4 FRIULI-VENEZIA-GIULIA (UD)	0	0	0	0	1	HI-test (H5)	X
ITH4 FRIULI-VENEZIA-GIULIA (UD)	0	0	0	0	1	HI-test (H7)	X
ITI2 UMBRIA	39	35	10	350	350	ELISA test	X
ITI2 UMBRIA	0	0	0	0	1	HI-test (H5)	X
ITI2 UMBRIA	0	0	0	0	1	HI-test (H7)	X
ITI4 LAZIO (Viterbo province)	24	24	10	240	240	ELISA test	X
ITI4 LAZIO (Viterbo province)	0	0	0	0	1	HI-test (H5)	X
ITI4 LAZIO (Viterbo province)	0	0	0	0	1	HI-test (H7)	X
Total					12 730		

Add a new row

- (a) Holdings or herds or flocks or establishments as appropriate.
 (b) Refers to the location of the holding of origin. In case NUTS (Nomenclature of Territorial Units for Statistics) can not be used, region as defined in the programme by the Member States is requested
 (c) Total number of holdings of one category of poultry in concerned NUTS 2 region.

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Category : free range laying hens

delete this category

In the column "Total number of samples", please put 0 if the same samples have already been counted for another laboratory analysis (example : for HI-H5 and HI -H7 test, only 1 sample should be counted)

NUTS (2) (b)	Total number of holdings(c)	Total number of holdings to be sampled	Number of samples per holding	Total number of samples	Total number of tests	Method of laboratory analysis	
ITC1 PIEDMONT (Cuneo province)	17	17	20	340	340	ELISA test	X
ITC4 LOMBARDY (Bergamo, Brescia)	21	21	20	420	420	ELISA test	X
ITH3 VENETO (Padua, Rovigo)	51	51	20	1 020	1 020	ELISA test	X
ITH5 EMILIA-ROMAGNA (Bologna)	28	28	20	560	560	ELISA test	X
ITH3 VENETO (Treviso province)	15	15	10	150	150	ELISA test	X
ITH4 FRIULI-VENEZIA-GIULIA (Udine)	15	15	10	150	150	ELISA test	X
ITI2 UMBRIA	21	21	10	210	210	ELISA test	X
ITI4 LAZIO (Viterbo province)	68	42	10	420	420	ELISA test	X
Total					3 270		

Add a new row

- (a) Holdings or herds or flocks or establishments as appropriate.
- (b) Refers to the location of the holding of origin. In case NUTS (Nomenclature of Territorial Units for Statistics) can not be used, region as defined in the programme by the Member States is requested
- (c) Total number of holdings of one category of poultry in concerned NUTS 2 region.

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Category : chicken breeders

delete this category

In the column "Total number of samples", please put 0 if the same samples have already been counted for another laboratory analysis (example : for HI-H5 and HI -H7 test, only 1 sample should be counted)

NUTS (2) (b)	Total number of holdings(c)	Total number of holdings to be sampled	Number of samples per holding	Total number of samples	Total number of tests	Method of laboratory analysis	
ITC1 PIEDMONT (Cuneo province)	19	19	20	380	380	ELISA test	X
ITC1 PIEDMONT (Cuneo province)	0	0	0	0	2	HI-test (H5)	X
ITC1 PIEDMONT (Cuneo province)	0	0	0	0	2	HI-test (H7)	X
ITC4 LOMBARDY (Bergamo, Brescia)	50	50	20	1 000	1 000	ELISA test	X
ITC4 LOMBARDY (Bergamo, Brescia)	0	0	0	0	5	HI-test (H5)	X
ITC4 LOMBARDY (Bergamo, Brescia)	0	0	0	0	5	HI-test (H7)	X
ITH3 VENETO (Padua, Rovigo)	41	41	20	820	820	ELISA test	X
ITH3 VENETO (Padua, Rovigo)	0	0	0	0	4	HI-test (H5)	X
ITH3 VENETO (Padua, Rovigo)	0	0	0	0	4	HI-test (H7)	X
ITH5 EMILIA-ROMAGNA (Bologna)	39	39	20	780	780	ELISA test	X
ITH5 EMILIA-ROMAGNA (Bologna)	0	0	0	0	4	HI-test (H5)	X
ITH5 EMILIA-ROMAGNA (Bologna)	0	0	0	0	4	HI-test (H7)	X
ITH3 VENETO (Treviso province)	5	5	10	50	50	ELISA test	X
ITH3 VENETO (Treviso province)	0	0	0	0	0	HI-test (H5)	X
ITH3 VENETO (Treviso province)	0	0	0	0	0	HI-test (H7)	X
ITH4 FRIULI-VENEZIA-GIULIA (Udine)	2	2	10	20	20	ELISA test	X

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ITH4 FRIULI-VENEZIA-GIULIA (I)	0	0	0	0	0	0	HI-test (H5)	X
ITH4 FRIULI-VENEZIA-GIULIA (I)	0	0	0	0	0	0	HI-test (H7)	X
ITI2 UMBRIA	15	15	10	150	150	150	ELISA test	X
ITI2 UMBRIA	0	0	0	0	0	1	HI-test (H5)	X
ITI2 UMBRIA	0	0	0	0	0	1	HI-test (H7)	X
Total						3 232		
Add a new row								
<p>(a) Holdings or herds or flocks or establishments as appropriate.</p> <p>(b) Refers to the location of the holding of origin. In case NUTS (Nomenclature of Territorial Units for Statistics) can not be used, region as defined in the programme by the Member States is requested</p> <p>(c) Total number of holdings of one category of poultry in concerned NUTS 2 region.</p>								

Category : fattening turkeys

delete this category

In the column "Total number of samples", please put 0 if the same samples have already been counted for another laboratory analysis (example : for HI-H5 and HI -H7 test, only 1 sample should be counted)

NUTS (2) (b)	Total number of holdings(c)	Total number of holdings to be sampled	Number of samples per holding	Total number of samples	Total number of tests	Method of laboratory analysis	
ITC1 PIEDMONT (Cuneo provin	2	2	25	50	50	ELISA test	X
ITC1 PIEDMONT (Cuneo provin	0	0	0	0	14	HI-test (H5)	X
ITC1 PIEDMONT (Cuneo provin	0	0	0	0	14	HI-test (H7)	X
ITC4 LOMBARDY (Bergamo, Br	134	134	25	3 350	3 350	ELISA test	X
ITC4 LOMBARDY (Bergamo, Br	0	0	0	0	904	HI-test (H5)	X
ITC4 LOMBARDY (Bergamo, Br	0	0	0	0	904	HI-test (H7)	X

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ITH3 VENETO (Padua, Rovigo)	445	445	25	11 125	11 125	ELISA test	X
ITH3 VENETO (Padua, Rovigo)	0	0	0	0	3 004	HI-test (H5)	X
ITH3 VENETO (Padua, Rovigo)	0	0	0	0	3 004	HI-test (H7)	X
ITH5 EMILIA-ROMAGNA (Bologna)	38	38	25	950	950	ELISA test	X
ITH5 EMILIA-ROMAGNA (Bologna)	0	0	0	0	257	HI-test (H5)	X
ITH5 EMILIA-ROMAGNA (Bologna)	0	0	0	0	257	HI-test (H7)	X
ITH3 VENETO (Treviso province)	8	8	10	80	80	ELISA test	X
ITH3 VENETO (Treviso province)	0	0	0	0	22	HI-test (H5)	X
ITH3 VENETO (Treviso province)	0	0	0	0	22	HI-test (H7)	X
ITH4 FRIULI-VENEZIA-GIULIA (UD)	15	15	10	150	150	ELISA test	X
ITH4 FRIULI-VENEZIA-GIULIA (UD)	0	0	0	0	41	HI-test (H5)	X
ITH4 FRIULI-VENEZIA-GIULIA (UD)	0	0	0	0	41	HI-test (H7)	X
IT12 UMBRIA	18	18	10	180	180	ELISA test	X
IT12 UMBRIA	0	0	0	0	49	HI-test (H5)	X
IT12 UMBRIA	0	0	0	0	49	HI-test (H7)	X
IT14 LAZIO (Viterbo province)	11	11	10	110	110	ELISA test	X
IT14 LAZIO (Viterbo province)	0	0	0	0	30	HI-test (H5)	X
IT14 LAZIO (Viterbo province)	0	0	0	0	30	HI-test (H7)	X
Total					24 637		

Add a new row

(a) Holdings or herds or flocks or establishments as appropriate.

(b) Refers to the location of the holding of origin. In case NUTS (Nomenclature of Territorial Units for Statistics) can not be used, region as defined in the programme by the Member States is requested

(c) Total number of holdings of one category of poultry in concerned NUTS 2 region.

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Category : turkey breeders

delete this category

In the column "Total number of samples", please put 0 if the same samples have already been counted for another laboratory analysis (example : for HI-H5 and HI -H7 test, only 1 sample should be counted)

NUTS (2) (b)	Total number of holdings(c)	Total number of holdings to be sampled	Number of samples per holding	Total number of samples	Total number of tests	Method of laboratory analysis	
ITH3 VENETO (Padua, Rovigo)	35	35	20	700	700	ELISA test	X
ITH5 EMILIA-ROMAGNA (Bologna)	3	3	20	60	60	ELISA test	X
ITH3 VENETO (Treviso province)	1	1	20	20	20	ELISA test	X
ITH4 FRIULI-VENEZIA-GIULIA (Udine)	2	2	20	40	40	ELISA test	X
Total					820		
Add a new row							
<p>(a) Holdings or herds or flocks or establishments as appropriate.</p> <p>(b) Refers to the location of the holding of origin. In case NUTS (Nomenclature of Territorial Units for Statistics) can not be used, region as defined in the programme by the Member States is requested</p> <p>(c) Total number of holdings of one category of poultry in concerned NUTS 2 region.</p>							

Category : Quail breeders

delete this category

In the column "Total number of samples", please put 0 if the same samples have already been counted for another laboratory analysis (example : for HI-H5 and HI -H7 test, only 1 sample should be counted)

NUTS (2) (b)	Total number of holdings(c)	Total number of holdings to be sampled	Number of samples per holding	Total number of samples	Total number of tests	Method of laboratory analysis	
ITH3 VENETO (Padua, Rovigo)	7	7	40	280	56	PCR test	X

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ITH5 EMILIA-ROMAGNA (Bologna)	1	1	40	280	56	PCR test	X
Total					112		
						Add a new row	
<p>(a) Holdings or herds or flocks or establishments as appropriate.</p> <p>(b) Refers to the location of the holding of origin. In case NUTS (Nomenclature of Territorial Units for Statistics) can not be used, region as defined in the programme by the Member States is requested</p> <p>(c) Total number of holdings of one category of poultry in concerned NUTS 2 region.</p>							

Category : Guinea fowl breeders

delete this category

In the column "Total number of samples", please put 0 if the same samples have already been counted for another laboratory analysis (example : for HI-H5 and HI -H7 test, only 1 sample should be counted)

NUTS (2) (b)	Total number of holdings(c)	Total number of holdings to be sampled	Number of samples per holding	Total number of samples	Total number of tests	Method of laboratory analysis	
ITC4 LOMBARDY (Bergamo, Brescia)	2	2	20	40	40	ELISA test	X
ITH3 VENETO (Padua, Rovigo)	4	4	20	80	80	ELISA test	X
Total					120		
						Add a new row	
<p>(a) Holdings or herds or flocks or establishments as appropriate.</p> <p>(b) Refers to the location of the holding of origin. In case NUTS (Nomenclature of Territorial Units for Statistics) can not be used, region as defined in the programme by the Member States is requested</p> <p>(c) Total number of holdings of one category of poultry in concerned NUTS 2 region.</p>							

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Category : ratites

delete this category

In the column "Total number of samples", please put 0 if the same samples have already been counted for another laboratory analysis (example : for HI-H5 and HI -H7 test, only 1 sample should be counted)

NUTS (2) (b)	Total number of holdings(c)	Total number of holdings to be sampled	Number of samples per holding	Total number of samples	Total number of tests	Method of laboratory analysis	
ITC1 PIEDMONT (Cuneo province)	5	5	10	50	50	ELISA test	X
ITC4 LOMBARDY (Bergamo, Brescia)	8	8	10	80	80	ELISA test	X
ITH3 VENETO (Padua, Rovigo)	2	2	10	20	20	ELISA test	X
ITH5 EMILIA-ROMAGNA (Bologna)	6	6	10	60	60	ELISA test	X
Total					210		
Add a new row							
<p>(a) Holdings or herds or flocks or establishments as appropriate.</p> <p>(b) Refers to the location of the holding of origin. In case NUTS (Nomenclature of Territorial Units for Statistics) can not be used, region as defined in the programme by the Member States is requested</p> <p>(c) Total number of holdings of one category of poultry in concerned NUTS 2 region.</p>							

Category : farmed game birds (gallinaceous) adults and breeders

delete this category

In the column "Total number of samples", please put 0 if the same samples have already been counted for another laboratory analysis (example : for HI-H5 and HI -H7 test, only 1 sample should be counted)

NUTS (2) (b)	Total number of holdings(c)	Total number of holdings to be sampled	Number of samples per holding	Total number of samples	Total number of tests	Method of laboratory analysis	
ITH3 VENETO (Padua, Rovigo)	6	6	20	120	120	ELISA test	X

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ITH5 EMILIA-ROMAGNA (Bologna)	1	1	20	20	20	ELISA test	X
ITH3 VENETO (Treviso province)	1	1	10	10	10	ELISA test	X
Total					150		

Add a new row

- (a) Holdings or herds or flocks or establishments as appropriate.
 (b) Refers to the location of the holding of origin. In case NUTS (Nomenclature of Territorial Units for Statistics) can not be used, region as defined in the programme by the Member States is requested
 (c) Total number of holdings of one category of poultry in concerned NUTS 2 region.

Category : Backyard flocks

delete this category

In the column "Total number of samples", please put 0 if the same samples have already been counted for another laboratory analysis (example : for HI-H5 and HI -H7 test, only 1 sample should be counted)

NUTS (2) (b)	Total number of holdings(c)	Total number of holdings to be sampled	Number of samples per holding	Total number of samples	Total number of tests	Method of laboratory analysis	
Italy (at-risk areas, as defined in...)	2 781	250	20	5 000	1 000	PCR test	X
Total					1 000		

Add a new row

- (a) Holdings or herds or flocks or establishments as appropriate.
 (b) Refers to the location of the holding of origin. In case NUTS (Nomenclature of Territorial Units for Statistics) can not be used, region as defined in the programme by the Member States is requested
 (c) Total number of holdings of one category of poultry in concerned NUTS 2 region.

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Category : Poultry growers

delete this category

In the column "Total number of samples", please put 0 if the same samples have already been counted for another laboratory analysis (example : for HI-H5 and HI -H7 test, only 1 sample should be counted)

NUTS (2) (b)	Total number of holdings(c)	Total number of holdings to be sampled	Number of samples per holding	Total number of samples	Total number of tests	Method of laboratory analysis	
ITC1 PIEDMONT	48	48	30	1 440	1 440	ELISA test	X
ITC1 PIEDMONT	0	0	0	0	15	HI-test (H5)	X
ITC1 PIEDMONT	0	0	0	0	15	HI-test (H7)	X
ITC1 PIEDMONT	48	5	30	150	30	PCR test	X
ITC3 LIGURIA	4	4	20	80	80	ELISA test	X
ITC4 LOMBARDY	73	73	30	2 190	2 190	ELISA test	X
ITC4 LOMBARDY	0	0	0	0	13	HI-test (H5)	X
ITC4 LOMBARDY	0	0	0	0	13	HI-test (H7)	X
ITC4 LOMBARDY	73	12	30	360	72	PCR test	X
ITH10 AP BOLZANO	5	5	20	100	100	ELISA test	X
ITH20 AP TRENTO	1	1	20	20	20	ELISA test	X
ITH3 VENETO	109	109	30	3 270	3 270	ELISA test	X
ITH3 VENETO	0	0	0	0	32	HI-test (H5)	X
ITH3 VENETO	0	0	0	0	32	HI-test (H7)	X
ITH3 VENETO	109	3	30	90	18	PCR test	X
ITH4 FRIULI - VENEZIA GIULIA	18	18	20	360	360	ELISA test	X

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ITH5 EMILIA - ROMAGNA	117	117	30	3 510	3 510	ELISA test	X
ITH5 EMILIA - ROMAGNA	0	0	0	0	35	HI-test (H5)	X
ITH5 EMILIA - ROMAGNA	0	0	0	0	35	HI-test (H7)	X
ITH5 EMILIA - ROMAGNA	117	29	30	870	174	PCR test	X
ITI1 TOSCANA	30	30	20	600	600	ELISA test	X
ITI1 TOSCANA	0	0	0	0	6	HI-test (H5)	X
ITI1 TOSCANA	0	0	0	0	6	HI-test (H7)	X
ITI1 TOSCANA	30	10	30	300	60	PCR test	X
ITI2 UMBRIA	35	35	20	700	700	ELISA test	X
ITI2 UMBRIA	0	0	0	0	7	HI-test (H5)	X
ITI2 UMBRIA	0	0	0	0	7	HI-test (H7)	X
ITI2 UMBRIA	35	5	20	100	20	PCR test	X
ITI3 MARCHE	37	37	20	740	740	ELISA test	X
ITI3 MARCHE	0	0	0	0	7	HI-test (H5)	X
ITI3 MARCHE	0	0	0	0	7	HI-test (H7)	X
ITI3 MARCHE	37	4	20	80	16	PCR test	X
ITI4 LAZIO	22	22	20	440	440	ELISA test	X
ITI4 LAZIO	0	0	0	0	4	HI-test (H5)	X
ITI4 LAZIO	0	0	0	0	4	HI-test (H7)	X
ITI4 LAZIO	22	2	20	40	8	PCR test	X
ITF1 ABRUZZO	31	31	20	620	620	ELISA test	X
ITF2 MOLISE	3	3	20	60	60	ELISA test	X
ITF3 CAMPANIA	31	31	20	620	620	ELISA test	X

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ITF3 CAMPANIA	0	0	0	0	6	HI-test (H5)	X
ITF3 CAMPANIA	0	0	0	0	6	HI-test (H7)	X
ITF3 CAMPANIA	31	3	20	60	12	PCR test	X
ITF4 PUGLIA	5	5	20	100	100	ELISA test	X
ITF5 BASILICATA	1	1	20	20	20	ELISA test	X
ITF6 CALABRIA	7	7	20	140	140	ELISA test	X
ITG1 SICILIA	7	7	20	140	140	ELISA test	X
ITG2 SARDEGNA	2	2	20	40	40	ELISA test	X
Total					15 850		

Add a new row

- (a) Holdings or herds or flocks or establishments as appropriate.
 (b) Refers to the location of the holding of origin. In case NUTS (Nomenclature of Territorial Units for Statistics) can not be used, region as defined in the programme by the Member States is requested
 (c) Total number of holdings of one category of poultry in concerned NUTS 2 region.

Add a category

Totals	Total number of tests	Total number of samples
Total poultry 2023	62 131	59 195

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2.2.2 DUCKS ,GEESE AND FARMED GAME BIRDS (WATERFOWL e.g. MALLARD) HOLDINGS (a) to be sampled.

Serological investigation according to Annex I to Commission Decision 2010/367/EU

Targets for year

2023

Category : fattening ducks

delete this category

In the column "Total number of samples", please put 0 if the same samples have already been counted for another laboratory analysis (example : for HI-H5 and HI -H7 test, only 1 sample should be counted)

NUTS (2) (b)	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 samples	Total number of tests	Method of laboratory analysis	
ITC1 PIEDMONT (Cuneo province)	2	2	20	40	8	PCR test	X
ITC4 LOMBARDY (Bergamo, Brescia)	13	13	20	260	52	PCR test	X
ITH3 VENETO (Padua, Rovigo, Treviso)	15	15	20	300	60	PCR test	X
ITH5 EMILIA-ROMAGNA (Bologna)	3	3	20	60	12	PCR test	X
ITH3 VENETO (Treviso province)	2	2	20	40	8	PCR test	X
ITH4 FRIULI-VENEZIA-GIULIA	1	1	20	20	4	PCR test	X
ITI2 UMBRIA	1	1	20	20	4	PCR test	X
Total					148		

Add a new row

(a) Holdings or herds or flocks or establishments as appropriate.



(b) Refers to the location of the holding of origin. In case NUTS (2) code can not be used, region as defined in the programme by the Member State is requested

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Category : duck breeders

delete this category

In the column "Total number of samples", please put 0 if the same samples have already been counted for another laboratory analysis (example : for HI-H5 and HI -H7 test, only 1 sample should be counted)

NUTS (2) (b)	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 samples	Total number of tests	Method of laboratory analysis	
ITH3 VENETO (Padua, Rovigo, )	1	1	20	20	4	PCR test	X
ITH5 EMILIA-ROMAGNA (Bologna, )	6	6	20	120	24	PCR test	X
ITI2 UMBRIA	2	2	20	40	8	PCR test	X
Total					36		

Add a new row




(a) Holdings or herds or flocks or establishments as appropriate.

(b) Refers to the location of the holding of origin. In case NUTS (2) code can not be used, region as defined in the programme by the Member State is requested

Category : fattening geese

delete this category

In the column "Total number of samples", please put 0 if the same samples have already been counted for another laboratory analysis (example : for HI-H5 and HI -H7 test, only 1 sample should be counted)

NUTS (2) (b)	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 samples	Total number of tests	Method of laboratory analysis	
ITC4 LOMBARDY (Bergamo, Brescia, )	1	1	20	20	4	PCR test	X
ITH3 VENETO (Padua, Rovigo, )	5	5	20	100	20	PCR test	X
ITH3 VENETO (Treviso province)	1	1	20	20	4	PCR test	X
ITI2 UMBRIA	1	1	20	20	4	PCR test	X
ITI4 LAZIO	1	1	20	20	4	PCR test	X
ITH4 FRIULI-VENEZIA-GIULIA ()	1	1	20	20	4	PCR test	X

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Total					40	
						Add a new row
<p>(a) <i>Holdings or herds or flocks or establishments as appropriate.</i></p> <p>(b) <i>Refers to the location of the holding of origin. In case NUTS (2) code can not be used, region as defined in the programme by the Member State is requested</i></p>						

Category : geese breeders

delete this category

In the column "Total number of samples", please put 0 if the same samples have already been counted for another laboratory analysis (example : for HI-H5 and HI -H7 test, only 1 sample should be counted)

NUTS (2) (b)	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 samples	Total number of tests	Method of laboratory analysis	
ITH3 VENETO (Padua, Rovigo)	1	1	20	20	4	PCR test	X
ITH5 EMILIA-ROMAGNA (Bologna)	2	2	20	40	8	PCR test	X
ITI2 UMBRIA	2	2	20	40	8	PCR test	X
Total					20		
						Add a new row	
<p>(a) <i>Holdings or herds or flocks or establishments as appropriate.</i></p> <p>(b) <i>Refers to the location of the holding of origin. In case NUTS (2) code can not be used, region as defined in the programme by the Member State is requested</i></p>							

Add a category

Totals	Total number of tests	Total number of samples
Total ducks and geese and farmed game birds 2023	244	1 220

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TOTALS for Poultry (2.2.1) + Ducks and Geese (2.2.2) and farmed game birds for year :

2023

Poultry + Ducks/Geese /farmed game birds	Total number of tests
Grand Total	62 375
Grand Total ELISA	51 585
Grand Total agar	0
Grand Total HI tests (H5)	4 512
Grand Total HI tests (H7)	4 512
Grand Total Virus Isolation test	0
Grand Total PCR test	1 766
Grand Total Samplings	60 415

2.3 Sampling procedures, sampling periods and frequency of testing taking into account criteria set out in Annex II of Commission Delegated Regulation (EU) 2020/689.

For each poultry category please detail the place of sampling (holding or slaughterhouse), the period and frequency of the testing, and who is in charge of the sampling.

(max. 32000 chars):

In high-risk provinces, all industrial poultry holdings of the targeted productive poultry categories will be sampled. In medium risk provinces for each of the targeted poultry production category (except duck, geese and mallard holdings), the number of holdings to be sampled are defined so as to ensure

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the identification of at least one infected poultry holding where the prevalence of infected poultry holdings is at least 5 %, with a 95 % confidence interval. The number of duck, geese and mallard holdings to be sampled are defined to ensure the identification of at least one infected poultry holding where the prevalence of infected poultry holdings is at least 5 %, with a 99 % confidence interval. Pooled testing approach (pool of 5 samples) has been taken into consideration for PCR tests in order to decrease the costs of the surveillance programme.

The productivity of the Italian intensive poultry industry is not related to specific periods during the year, and has continuous productive cycles. Nevertheless, at farm level, between two consecutive productive cycles, a correct terminal disinfection is mandatory as provided by the in-force legislation. The rural sector has generally a seasonal pattern.

Industrial farms

In the industrial poultry farms located in areas considered at high risk of AI virus introduction and spread, sampling activity will be implemented in the poultry species/productive types and with the frequency detailed below:

- Fattening turkeys: serological sample from 5 animals per productive unit with a minimum of 10 animals sampled per farm, per productive cycle (preferably before depopulation to slaughter both for male and female animals);
- Quail breeders: virological sample of minimum 20 animal per farm every six months;
- Fattening ducks and geese, and breeders: virological sample (cloacal swabs and/or pool of fresh faeces) from 5 animals per productive unit with a minimum of 10 animals sampled per farm collected every six months. In case of farms with a single barn, 10 animals will be sampled;
- Breeders (excluded duck and goose breeders) and laying hens: serological sample from 5 animals per productive unit with a minimum of 10 animals sampled per farm every six months (preferably before movements of pullets to farm or of hens to slaughterhouse);
- Other meat-type poultry (excluded broilers and fattening quails): serological sample from minimum 10 animals per farm once in a year;
- Farmed game birds: serological sample from 5 animals per aviary every 6 months (10 animals if the farm has only one aviary/birdcage) per farm/holder;
- Ratites: serological sample from minimum 10 animals per farm once in a year.

In the areas considered at medium risk of AI viruses introduction and spread, sampling activity will be implemented in the poultry species/productive types detailed below:

- Fattening turkeys, turkey breeders and chicken breeders;
- Laying hens (free-range or not);
- Farmed game bird breeders;
- Fattening ducks and geese, and duck and goose breeders.

For each productive category above, the number of establishments to be sampled in the surveillance plan once in a year is defined on a representative sampling scheme as detailed in the technical guidelines in the Commission Decision 2010/367/CE Annex I, paragraphs 2.1 and 2.2, and paragraph 5.1, tables 1 and 2.

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In every farm (excluded meat-type and breeders ducks and geese) serological sample will be collected from minimum 10 animals chosen randomly within the animals of the different units of the farm (95% of probability to identify a positive animal if a prevalence of 30% is considered). If the farm has more than one barn, samples from 5 animals per unit will be collected. In meat-type and breeders ducks and geese, every six months virological samples (cloacal swabs and/or pool of fresh faeces) will be collected from 5 animals per productive unit with a minimum of 10 per farm. If the farm has only one barn the animals sampled will be 10.

Backyard flocks

In regions considered at high and medium risk, backyard flocks will be tested twice a year (in spring and fall, during migratory periods). The holdings covered by surveillance will be identified by the regional veterinary services, taking into account the main risk factors for the introduction of AI viruses (e.g. free-range housing, proximity to wetlands or other resting sites for migratory birds, multispecies and multi-age holdings) and for the spread of these viruses (e.g., live bird markets, location in a DPPA). Number of animals and productive categories to be sampled will be defined based on the productive type and species reared in the farm. On the whole national territory 250 backyard flocks will be actively sampled and tested in order to detect the circulation of LPAI viruses.

Growers/dealers

Regarding growers and dealers, the Italian issued a provision on the sampling activity to be carried out based on risk assessment, reared species and trade flows (DM 25 June 2010, see Annex 3). Growers and dealers will be monitored 7 days before any bird movement (e.g., fairs and markets). The sampled birds will be preferably those coming from markets or fairs and those kept for long periods in the flock. In multispecies holdings, samples will be preferably taken from ducks, geese, and turkeys. When ducks and geese are present in a flock, tracheal or cloacal swabs or pools of faeces will be collected for virological testing.

Veterinarians of the Local Health Units is in charge of the sampling activities foreseen under the national surveillance plan for AI.

2.4. Laboratory testing: description of the laboratory tests used.

Please describe the tests to be used and their purpose (screening test or confirmatory test or follow-up investigations) for each category of poultry.

Please explain the number of tests calculation for each poultry category, and if it is in line with Annex II to Commission Delegated Regulation (EU) 2020/689.

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

With the entering into force of Regulation (EU) 2020/689, the European Reference Laboratory for Avian Influenza (EURL), has made available on its website (**<https://www.izsvenezie.com/reference-laboratories/avian-influenza-newcastle-disease/diagnostic-protocols/>**) relevant information, guidance and documents regarding:

- Collection of samples, including tissue material to be examined and transport of samples;
- Detailed procedures for virological, serological and molecular diagnostic tests;
- Interpretation of diagnostic results, with explanation of the potential limitations of a positive or negative result to one diagnostic method.

Diagnostic methods recommended by the NRL for AI have been developed in compliance with Regulations (EU) 2016/429 and 2020/689, and according to the Diagnostic Manual for Avian Influenza (2006/437/EC) as provided for in Council Directive 2005/94/EC. This document was considered by EURL to be technically valid also after the abrogation of Directive 2005/94/CE.

Laboratory tests for the AI surveillance programme in domestic poultry will be conducted at one of the laboratories of Istituti Zooprofilattici Sperimentali (IIZZSS). The IIZZSS are veterinary public health institutes, which form a network of public laboratories at national and regional level, organized in 10 central laboratories and 85 field diagnostic units at provincial level. All IIZZSS laboratories for the official controls are accredited to perform analyses on food of animal origin and on animal health.

A competitive enzyme-linked immunoassay (ELISA) kit for the detection of antibodies against the nucleocapsid protein of avian influenza viruses (AIVs) will be used as screening test for the detection of influenza A group reactive antibodies in sera from domestic bird species. If a positive serological result is recorded by the screening ELISA test, serum sample will be tested by haemoagglutination inhibition (HI) test for subtyping to H5 and H7.

All samples resulted positive for H5 and H7 subtypes must be confirmed by the National Reference Laboratory for AI through an haemagglutination inhibition test (HI) using specific antigens supplied by the EURL:

For the H5 subtype: A/teal/England/7394/06 (H5N3) and A/chicken/Scotland/59 (H5N1).

For the H7 subtype: A/turkey/England/647/77 (H7N7) and A/African Starling/983/79 (H7N1).

Virological samples collected in suspected cases in the framework of early detection-passive surveillance – system and as follow-up in seropositive holdings, will be first tested to identify the M gene using RT-PCR test. If the sample results positive, it will also be tested for the H5 and H7 subtypes. If positive for one of the two, the cleavage site will be analysed in order to understand whether the virus is a low or highly pathogenic one. The samples resulted positive to molecular tests will be used for virus isolation attempts.

The samples tested positive for virological tests must be promptly sent to the National Reference Laboratory for AI for result confirmation and further investigations (virus isolation, virus characterization, phylogenetic analysis, etc.), along with all the related documentation.

According to our experience, some species/type of poultry production, such as quail breeders and backyard flocks, when tested serologically (with ELISA,

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AGID or HI), provide results which are difficult to interpret because of several reasons.

We observed that serological tests in quail often showed fluctuating results and non-specific agglutination phenomena due to intrinsic characteristics of this species.

Backyard farms are establishments characterized by several risk factors for the introduction and spread of AI viruses: i) presence of long-lived and multi-age poultry species, ii) free-range husbandry practise, iii) suboptimal biosecurity practices and housing conditions, iv) presence of several poultry species, including those which do not show significant clinical signs, v) frequent movements or relocations. All previous conditions imply a higher probability of a direct and/or indirect contact with infected animals or fomites. Therefore, in backyard flocks, serological assays may provide information that does not reflect the active circulation of avian influenza viruses, especially of LPAIv, but just the exposure to AI viruses at some point during the production cycle of the species reared (non-specific agglutination phenomena).

For the above mentioned reasons, following the provisions of and criteria laid down in point 2 letter (c) (iii) and point 3 letter (a) and (b) of Section 9 Annex II of Commission Delegated Regulation (EU) 2020/689, and with a view to controlling the disease promptly, we opted to perform virological tests (RT-PCR) in quail breeders and backyard flocks, because it allows detecting the actual infection status of poultry and/or active circulation of AI viruses in a flock.

3. *Description and implementation of the surveillance programme in wild birds*

3.1.1 *Designation of the authorities in charge of supervising, coordinating, and implementing the programme and relevant collaborating partners (e.g. epidemiologists, ornithologists, nature bird observation and hunter organisations).*

Please describe in detail who designs, who implements, and who monitors the programme in wild birds.

Please detail the system in place to detect the dead wild birds; please explain who delivers the wild birds to the laboratory.

(max. 32000 chars):

The Ministry of Health (MoH), Directorate-General for animal health and veterinary medicinal products (DGSAF) - Office III, shall design, coordinate and monitor the activities provided for in the National Surveillance Plan for Avian Influenza, with the scientific and technical support of the National Reference Laboratory for Avian Influenza and Newcastle Disease (NRL IA & ND), hosted at Istituto Zooprofilattico Sperimentale delle Venezie (IZSVE).

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Other figures and relevant collaborating partners include: personnel of the Wildlife Rescue Centres (CRAS), ornithologists of the Italian Institute for Environmental Protection and Research (ISPRA), environmental and wildlife authorities. Besides, the authorities relies on the awareness and cooperation from, and reporting of moribund or dead wild birds or abnormal mortality by the general public.

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

max. 32000 chars):

The avian influenza surveillance plan for wild birds involves passive surveillance activities that operate all-year-round on the whole national Italian territory and results in the collection of found dead or syndromic wild birds that will be tested to determine AI status. Greater focus will be given to birds found dead in wetlands and in areas characterized by the presence of intensive poultry industry and crossed by migratory flyways. Besides, enhanced passive surveillance is foreseen in the fishing valleys and the hunting reserves located in the great Delta formation of the river Po.

A valuable source of information, and warning for possible HPAI incursion and spread within the poultry populations, may derive from active surveillance. In particular:

- information collected at specific times of the year during seasonal migration (e.g. hunting season, which in Italy runs from late September to the end of January),
- in areas of epidemiological relevance, such as sites of birds gatherings along main migratory flyways in proximity to DPPAs (i.e. coastline of the NE Adriatic Sea, in the delta of the River Po and the Lagoon of Venice, Veneto region).

Active surveillance research initiatives in wild birds in Italy represented throughout the 2020/2021 HPAI epidemic in EU a good indicator of the risk of infection for poultry, and allowed the detection of HPAI in cloacal, tracheal and feather swabs from hunted-harvested wild birds, or cloacal and tracheal swabs from live-captured, apparently healthy wild birds (Gobbo et al. 2021 Oct 20;9(11):2188. doi: 10.3390/microorganisms9112188).

3.1.3 Estimation of the local and/or migratory wildlife population

Please provide main species, number of birds, migratory routes, geographic distribution or risk areas.

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(max. 32000 chars):

Expert ornithological advice has been sought on details of the migrating wild bird population. The wintering waterbirds in Italian wetlands has been surveyed for over twenty years as part of the International Waterbird Census (IWC, <https://www.wetlands.org/knowledge-base/international-waterbird-census/>), a monitoring programme operating in 143 countries aiming at collecting information on the presence, numbers and trends of waterbirds belonging to over 130 species at wetland sites. The results are also functional to establish the conservation priorities of the sites (e.g. Ramsar criteria, Special Protection Areas as provided for in the Directive 2009/147/EC). ISPRA (Istituto Superiore per la Ricerca e Protezione Ambientale) has the role of national coordinator for Italy. The coverage obtained, for many Italian regions, is close to the totality of the existing wetlands. According to the last official report (2009-2018), in January 2018, almost 2 million waterbirds were counted in Italy (1,922,148 birds), belonging to 126 species (see Annex IV - ISPRA, International Waterbird Census Report Italy 2009-2018 - May 2021, doi:10.13140/RG.2.2.24870.45123). The trend of the 2009-2018 counts was slightly positive: a minimum of 1,609,132 birds was counted in 2010, and a maximum of 2,030,129 birds in 2017. Six species have national totals higher than 100,000 individuals. Four of them, namely the green-winged teal, common coot, black-headed gull and mallard exceed 200,000 birds. The community of Italian waterbirds is dominated by three groups (ducks, gulls & terns, coots, rails & crakes), which account for more than two-thirds of counted birds. Duck numbers showed a 22% increase between 2009-13 and 2014-18 (mean 2014-2018: 813,929), whereas the gulls and terns decreased by 6% (mean 2014-2018: 342,554), and the rails and crakes by 12% (mean 2014-2018: 234,762). The most striking changes at the species level within these groups throughout 2009-2018 are the threefold increase of shelduck, the twofold increase of teal, pintail and pochard, and the threefold decrease of goldeneye. Swans and geese showed a 44% and 66% increase, with a twofold increase of mute swan and greylag goose, and a tenfold increase of white-fronted goose throughout the decade.

3.2 Design, criteria, risk factors and target population(3)

(max. 32000 chars):

The Italian national surveillance programme for AI in wild birds is an early detection - passive surveillance - system for identification of highly pathogenic avian influenza notifiable viruses in symptomatic/moribund or found dead targeted species and operates all-year-round, according to the provisions of and criteria and guidelines laid down in Annex II of Commission Delegated Regulation (EU) 2020/689. It is a virological survey and, in order to achieve the most effective testing of dead birds for detection of H5 HPAI viruses, it focuses on a list of wild birds species made publicly available on the EURL for AI & ND website (<https://www.izsvenezie.com/reference-laboratories/avian-influenza-newcastle-disease/>). In addition, in Italy expert ornithological and epidemiological advice and assessments may determine further higher risk wild bird species that may also be

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targeted. The risk factor for HPAI viruses introduction is based on the location of wetlands systems in the Italian territory, according to the RAMSAR Convention, as habitats supporting a characteristic flora and fauna, especially waterfowl.

The objective of the Italian national surveillance programme for avian influenza in wild birds is the timely detection of HPAI viruses circulating in those populations in order to prevent virus introduction into the domestic poultry holdings. The strategy for Italian avian influenza surveillance programme for wild birds is informed by the prevailing national and international disease situation, and scientific opinions/quarterly monitoring reports issued by EFSA/ECDC/EURL IA&ND (<https://www.efsa.europa.eu/en/publications?s=avian+influenza+overview>).

(3) Areas at risk (wetlands in particular where links with high density poultry populations), previous positive findings as referred to in Annex II to Commission Delegated Regulation (EU) 2020/689 should be taken into account and if possible complemented by a map.

3.2.1 WILD BIRDS focussed on target species

Investigations according to the surveillance programme set out in conformity with Annex II to Commission Delegated Regulation (EU) 2020/689

Targets for year

2023

NUTS (2) code/region (a)	Total number of wild birds to be sampled	Estimated total number of wild birds to be samples for passive surveillance	Type of test	Number of tests	
ITALY (entire national territory)	3 000	3 000	PCR test	3 000	X
ITALY (entire national territory)	50	50	Virus isolation test	50	X
Total	3 050	3 050		3 050	
		Add a new row			

ANNEX 4 : Standard requirements for the submission of surveillance programmes for avian influenza in poultry and wild birds

(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.

	Total number of tests
Total number of tests	3 050
Total Virus isolation tests	50
Total PCR tests	3 000
Total Other tests	0
Total number of wild birds to be sampled for passive surveillance	3 050

3.3 Sampling procedures and sampling periods

Please also explain which samples are taken from wild birds

max 32000 chars :

Samples collected from found dead or syndromic and humanely euthanized wild birds will include oropharyngeal and cloacal swabs and tissue from trachea, lungs and intestine. They will be processed either separately or as a pool, in relation to the size of the bird. Samples from brain should be collected in case of highly degraded visceral tissues, and they will be processed separately.

3.4 Laboratory testing: description of the laboratory tests used .

Please explain also which laboratory do the tests for the wild birds, and which, and how many tests are planned for each wild bird

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max 32000 chars :

The diagnostic tests utilised comprise real time reverse transcription polymerase chain reaction (rRT-PCR) methods, and attempted virus isolation in embryonated fowls' eggs. If a virus is isolated, classical (serological) and molecular virus characterisation methods used, will be consistent with procedures laid down in the EURL for AI & ND/Commission guidelines.

In summary, the laboratory tests comprises:

- Real time RT-PCR for Avian Influenza - screening test for matrix gene of all influenza A virus: for the detection of the matrix gene of any influenza A virus in clinical specimens and amplified samples,
- Real time RT-PCR for Avian Influenza - detects Eurasian H5/H7 AI virus: for the detection of the H5/H7 subtype of avian influenza (AI) virus in clinical specimens and amplified samples,
- Real time RT-PCR for Avian Influenza - detects Neuraminidase (N) component of AI virus: for the detection of the N1 subtype of avian influenza (AI) virus in clinical specimens and amplified samples,
- Virus isolation and detection in SPF (Specific Pathogen Free) embryonated chicken's eggs,
- Determination and analysis of nucleotide sequence (and deduced amino acid sequence) of specific regions of the genome of AI viruses,
- Whole Genome Sequencing (WGS) of selected avian influenza viruses.

Laboratory tests for the AI surveillance programme in wild birds will be conducted at one of the laboratories of Istituti Zooprofilattici Sperimentali (IIZZSS) network. Samples tested positive must be promptly sent to the National Reference Laboratory for AI for result confirmation and further investigations (virus isolation, virus characterization, phylogenetic analysis, etc.), along with all the related documentation.

4. *Short description of the epidemiological situation of the disease in poultry during the last five years*

max 32000 chars :

On this page (<https://www.izsvnezie.com/reference-laboratories/avian-influenza-newcastle-disease/italy-update/>), the most updated information on current and past outbreaks of HPAI and LPAI in domestic poultry and captive birds, according to official reporting sources can be found. Summary reports and maps are available for each epidemic.

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5. *Short description of the epidemiological situation of the disease in wild birds during the last five years*

(max. 32000 chars):

On this page (<https://www.izsvenezie.com/reference-laboratories/avian-influenza-newcastle-disease/italy-update/>), the most updated information on current and past cases of the disease in wild birds, according to official reporting sources can be found. Summary reports, species affected and maps, are available for each epidemic.

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

Please explain also briefly the measures implemented in case of suspicion or confirmation of the disease

(max. 32000 chars):

Control measures and obligations of operators in case of suspicion of disease, investigations to be carried out by the competent authorities, restriction and biosecurity measures, inventory and record analysis, temporary restricted zones, visits by official veterinarians are provided by the Commission Delegated Regulation (EU) 687/2020 (Part II of the Regulation). These supplementing rules cover both kept and wild terrestrial animals.

7. *Costs*

7.1 *Detailed analysis of the costs*

ANNEX 4 : Standard requirements for the submission of surveillance programmes for avian influenza in poultry and wild birds

7.1.1 Poultry including ducks, geese and farmed game birds

Please also check the consistency between the numbers mentioned in tables 2.2.1, 2.2.2, 7.2.1, and the information provided in box 2.3 and 2.4. Please comment also the cost-efficiency aspects of the programme

(max. 32000 chars):

The estimated samples number for domestic poultry included ducks, geese and farmed game birds is 60,415: 51,585 blood samples and 8,830 tracheal/cloacal swabs. Serological samples will be used for hemagglutination inhibition test (HI) both for subtype H5 and H7. The total number of HI tests will be 9,024, with a unit cost of € . The total number of ELISA tests will be 51,585, with a unit cost of € . Consequently for 2023 the actual cost for serological tests is estimated as 4 €: € for HI and € for ELISA. Pool of 5 tracheal/cloacal swabs will be used for PCR test (1,766 tests with a unit cost of €). The actual cost for molecular tests is estimated as € . In conclusion, for the year 2023 the total cost for the surveillance activity (sampling + serological tests + virological tests) on domestic poultry is estimated as € .

7.1.2 Wild birds

Please also check the consistency between the numbers mentions in tables 3.2.1, 7.2.2 and the information provided in box 3.3 and 3.4.

(max. 32000 chars):

Based on the results of passive surveillance for avian influenza in wild birds in the past three years, it is estimated that 3,050 wild birds belonging to the target species will be collected through passive surveillance activities. PCR test will be performed on all the samples, with a unit cost of € and a total cost of € . Virus isolation has a unit cost of € per analysis, and this exam is expected to be performed on 50 samples with a total cost of € . In conclusion, the total cost of passive surveillance activity (virological tests + virus isolation) on wild birds is estimated as € for 2023.

7.2 Summary of the annual costs :

7.2.1 Poultry surveillance including ducks, geese and farmed game birds : Detailed analysis of the cost of the programme - poultry

Costs of the planned activities for year :

2023

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C. Financial information

1. Identification of the implementing entities - financial circuits/flows

Identify and describe the entities which will be in charge of implementing the eligible measures planned in this programme which costs will constitute the reimbursement/payment claim to the EU. Describe the financial flows/circuits followed.

Each of the following paragraphs (from a to e) shall be filled out if EU cofinancing is requested for the related measure.

a) Implementing entities - **sampling**: who perform the official sampling? Who pays?
(e.g. authorised private vets perform the sampling and are paid by the regional veterinary services (state budget); sampling equipment is provided by the private laboratory testing the samples which includes the price in the invoice which is paid by the local state veterinary services (state budget))

(max. 32000 chars):

Official sampling activities are performed by local state veterinary services (Local Veterinary Authorities), and they are paid with state budget.

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b) Implementing entities - **testing**: who performs the testing of the official samples? Who pays?
(e.g. regional public laboratories perform the testing of official samples and costs related to this testing are entirely paid by the state budget)

(max. 32000 chars):

For laboratory analyses, only public laboratories are involved (Istituto Zooprofilattico Sperimentale). Tests are performed at the National Reference Laboratory for AI (hosted at the Istituto Zooprofilattico Sperimentale of Padua - IZS delle Venezie) or at branches of Istituto Zooprofilattico Sperimentale responsible for the geographic area (provinces) where the samples are collected. Confirmation tests are performed at the NRL. All of the costs related to testing are paid by state budget.

c) Implementing entities - **compensation**: who performs the compensation? Who pays?
(e.g. compensation is paid by the central level of the state veterinary services,
or compensation is paid by an insurance fund fed by compulsory farmers contribution)

(max. 32000 chars):

All compensation for sampling (state veterinarians) and testing (public laboratories) is paid by the Ministry of Health with state budget.

d) Implementing entities - **vaccination** : who provides the vaccine and who performs the vaccination? Who pays the vaccine? Who pays the vaccinator?

(e.g. farmers buy their vaccine to the private vets, send the paid invoices to the local state veterinary services which reimburse the farmers of the full amount and the vaccinator is paid by the regional state veterinary services)

(max. 32000 chars):

No vaccination activities are included in the present plan.

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e) Implementing entities - **other essential measures**: who implements this measure? Who provides the equipment/service? Who pays?

(max. 32000 chars):

Other measures will be implemented by the local veterinary authorities, and Istituti Zooprofilattici Sperimentali. Equipment and services will be provided by those entities. All of the measures are charged on national budget.

2. Source of funding of eligible measures

All eligible measures for which cofinancing is requested and reimbursement will be claimed are financed by public funds.

yes

no

3. Additional measures in exceptional and justified cases

In the "*Guidelines for the Union co-funded veterinary programmes*", it is indicated that in exceptional and duly justified cases, additional necessary measures can be proposed by the Member States in their application.

If you introduced these type of measures in this programme, for each of them, please provide detailed technical justification and also justification of their cost:

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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 : jpg, jpeg, tiff, tif, xls, xlsx, doc, docx, ppt, pptx, bmp, pna, pdf.
- 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) Only use letters from a-z and numbers from 1-10 in the attachment names, otherwise the submission of the data will not work.

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