BULGARIAN FOOD SAFETY AGENCY

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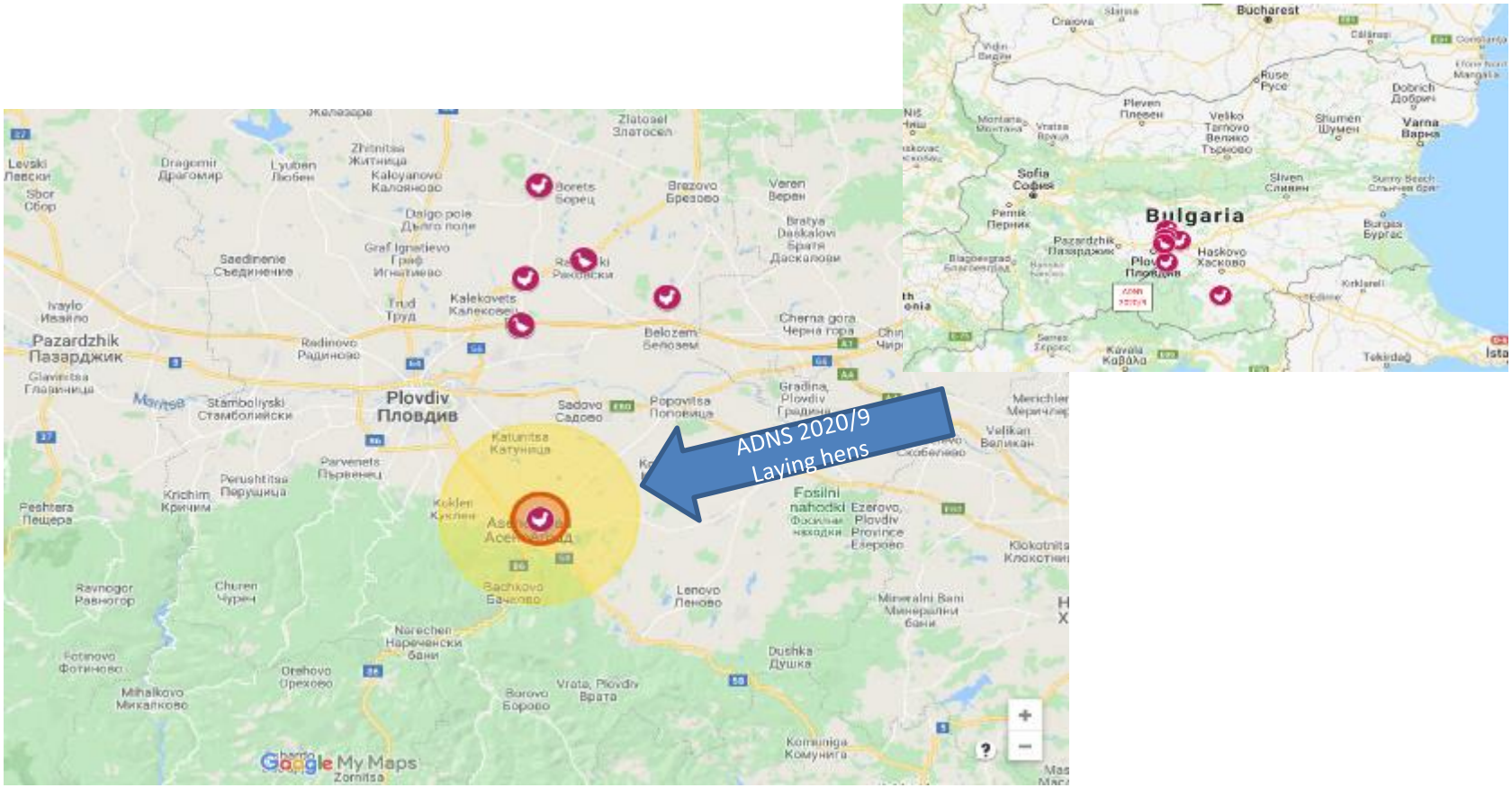
HPAI outbreaks in Bulgaria 2020

SCoPAFF, 18-19.06.2020

HPAI H5 in 2020

- 9 registered primary outbreaks in industrial poultry farms;
- 2 regions affected: Plovdiv (8 farms) and Kardzhali (1 farm);
- Poultry category affected: 5 laying hens farms, 4 mulard duck farms
- Total number of affected poultry - 256 442



HPAI H5 in 2020

ADNS ref. №	Region	Settlement	Poultry category	Technology	Poultry,n	Date of confirmation	Date of completed eradication activities (culling, disposal, cleaning and first desinfection)	HPAI subtype (H5)	Type of surveillance for detection of the outbreak
ADNS/1	Plovdiv	Rakovski	mulard ducks	closed cycle	14450	17.02.2020	21.02.2020	N8/N2	passive surveilance
ADNS/2		Padarsko	mulard ducks	closed cycle	11650	24.02.2020	04.03.2020	N8	active surveillance (10 km zone around ADNS 2020/1
ADNS/3		Trilistnik	laying hens	adult laying hens	55437	24.02.2020	10.03.2020	N2	passive surveillance (10 km zone around ADNS 2020/1
ADNS/4		Stryama	mulard ducks	gavage	5000	02.03.2020	08.03.2020	H5	active surveillance (10 km zone in Plovdiv region)
ADNS/5		Bolyarino	mulard ducks	closed cycle	3720	02.03.2020	08.03.2020	H5	active surveillance (enlarged zone around ADNS 2020/1)
ADNS/6		Trilistnik	laying hens	adult laying hens	31322	03.05.2020	09.03.2020	N2	active surveillance (10 km zone around ADNS 2020/1
ADNS/7	Kurdzhali	Perperek	laying hens	adult laying hens	16800	05.03.2020	09.03.2020	N8	passive surveillance
ADNS/8	Plovdiv	Trilistnik	laying hens	rearing laying hens	39120	12.03.2020	09.03.2020	N2	passive surveillance (technology linked with ADNS/6)
ADNS/9	Plovdiv	Asenovgrad	Laying hens	Adult laying hens	78943	04.06.2020	11.06.2020	N8	Passive surveillance

Genome analysis by EU RL, Istituto Zooprofilattico Sperimentale delle Venezie Viale dell'Università – Legnaro, Padova

HA

The HPAI viruses belong to the H5N8 (outbreaks 2020/2, 5 and 7) and H5N2 (outbreaks 2020/3, 6 and 8) subtypes, indicating the co-circulation in the country of two distinct strains. For outbreak 2020/1, H5N2 and H5N8 subtype.

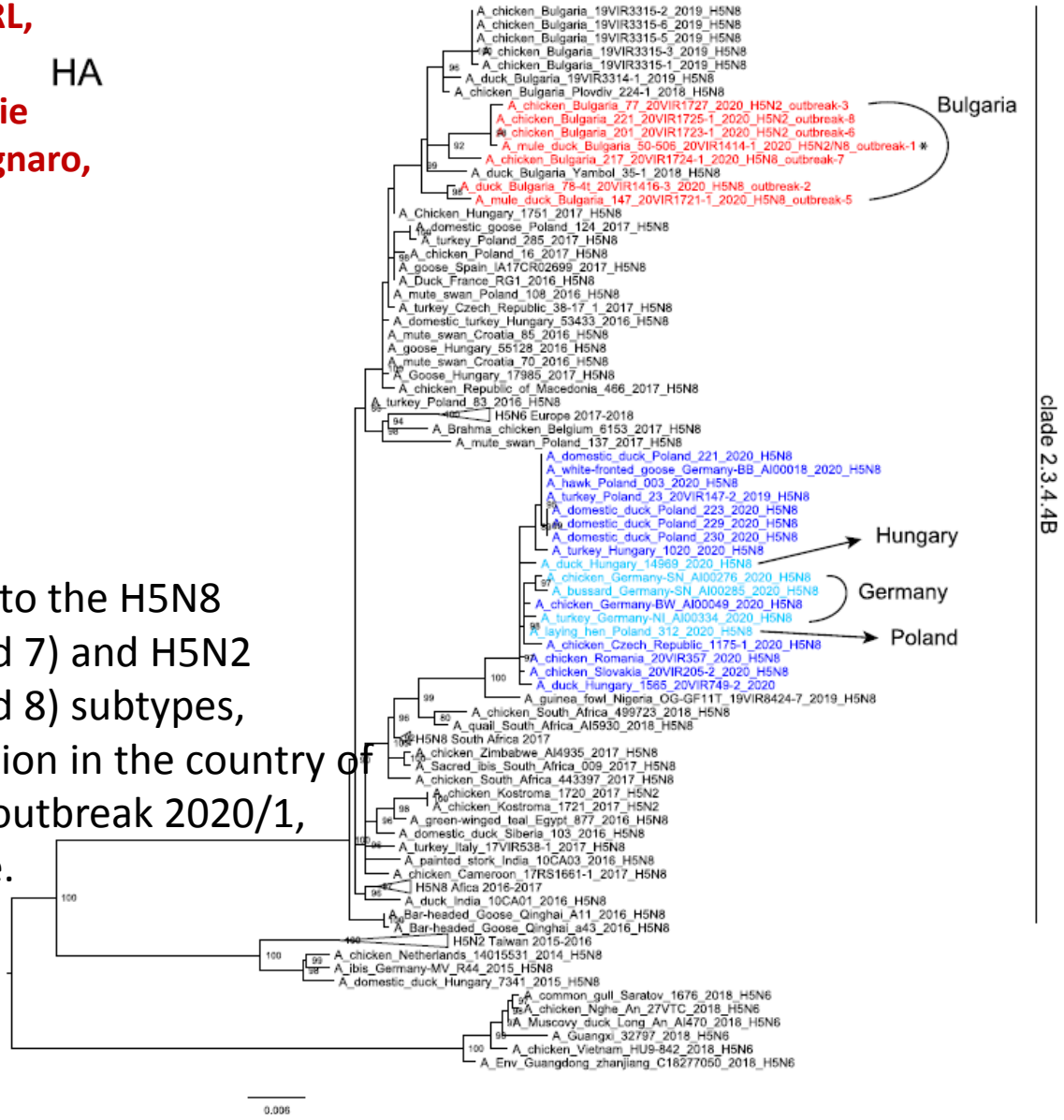
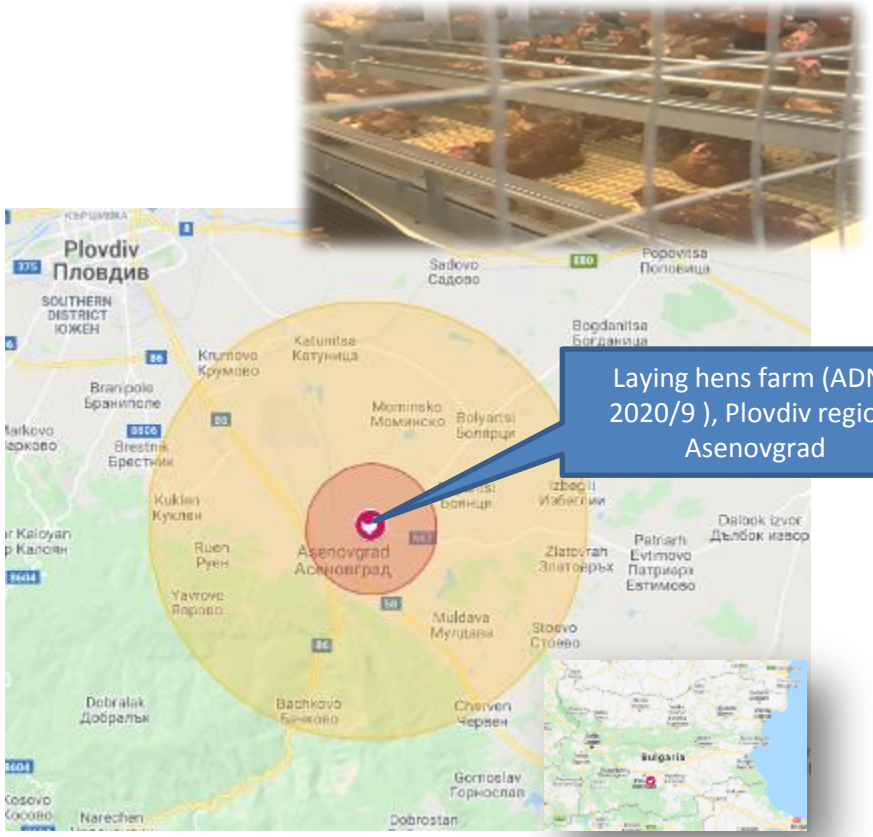


Fig.1. Maximum Likelihood phylogenetic tree of the **HA gene** (IQ-TREE v.1.6.8). The new Bulgarian sequences are marked in red, the H5N8 viruses currently circulating in East-Central Europe are marked in blue (recent viruses in light blue). Ultra-fast bootstrap supports higher than 80% are indicated next to the nodes. *identifies the H5N2/N8 co-infected outbreak 1. The sequence showed here corresponds to the H5N2 virus.

ADNS 2020/9
last outbreak confirmed on 04.06.2020 (1)

HPAI H5 N8 outbreak in laying hens farms (ADNS 2020/9

- Plovdiv region, land of Asenovgrad municipality
- Laying hens in cages - 78 943 poultry
- Primary outbreak - detected within the passive surveillance
- Suspicion on 03.06.2020 due to increased mortality (75% increased mortality)
- Confirmation on 04.06.2020 (HPAI H5N8) by the NRL.
- Samples for further genome analysis to be sent next week to EURL (22.06.2020).



- Additional information

- HPAI H5N8 outbreak confirmed in April 2019 (ADNS 4/2019)
- repopulation of the farm after the outbreak– September 2019
- last routine laboratory surveillance on 08.05.2020 - PCR negative for HPAI

ADNS 2020/9
last outbreak confirmed on 04.06.2020 (2)

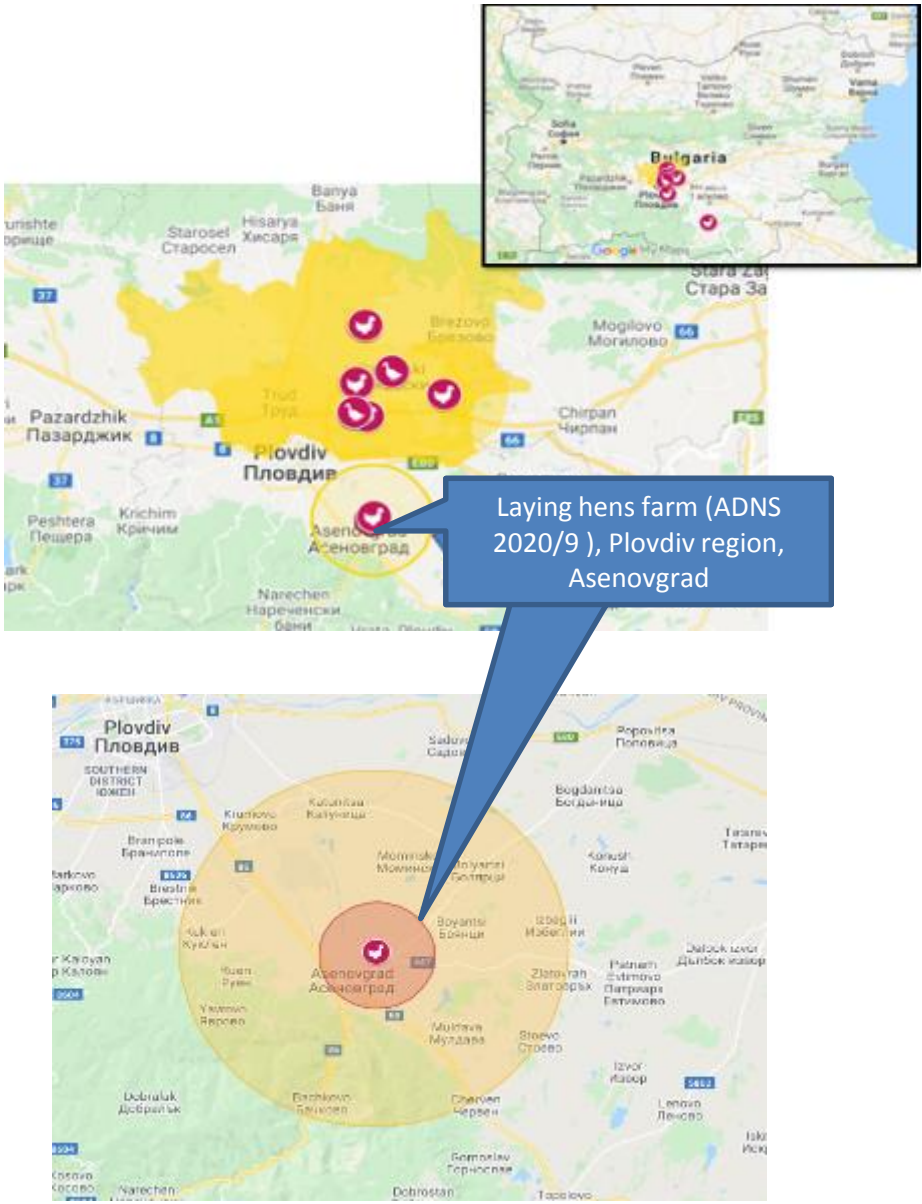
- Enforcement of Directive 2005/94/EC:
- establishing 3 km protective zone: 1 laying hens with 173 000 poultry (techn.linked) and 2 duck farms (empty) and 10 km surveillance zones around the outbreak: 3 duck farms (95 000 ducks);

- culling and disposal of all poultry in the farm, cleaning and disinfection;

- preventive culling - one technology linked farm 173 000 poultry;

- Inspection of the poultry farms in the restriction zones – no suspicions of AI Vi presence;

- epidemiological investigation:
  - break of biosecurity measures;
  - records not kept properly;
  - human factor (personnel) and transport means as the most probably pathway for spreading the infection.



Epidemiological investigation/survey /summary/

- break of biosecurity and human factor as main pathways for introduction of the virus (introduction by staff, equipment, vehicles).
- transport of ducks from farm to farm between areas/regions within their technology cycle of rearing is considered as the most likely source of spreading the infection;
- no suspicions suggesting AI infection in wild birds has been raised so far, so the pathways for AI virus spread via “indirect” or “direct contact” with wild birds could be ruled out;
- hunting and handling of shot waterfowl not considered as a risk factor for spreading avian influenza virus to susceptible poultry, based on the outcomes from the analysis of the epidemiological situation 2016-2019 (within the passive surveillance no positive wild birds have been confirmed);
- no links between poultry backyards and outbreaks have been confirmed or suspected
- no evidence/record about poultry farmers/keepers/workers to be backyards keeper or hunters have been found so far.

Control measures in Bulgaria (1)

Following the laboratory confirmation of HPAI H5 - emergency and eradication measures pursuant to Council Directive 2005/94/EC

- eradication measures in affected farms
- restriction surveillance zones :

-3 km protective zones around each outbreaks;

- 10 km surveillance zone;

-enlarged restriction zone in Plovdiv region, covering the area with high density of duck holdings, lifted in the end of May 2020

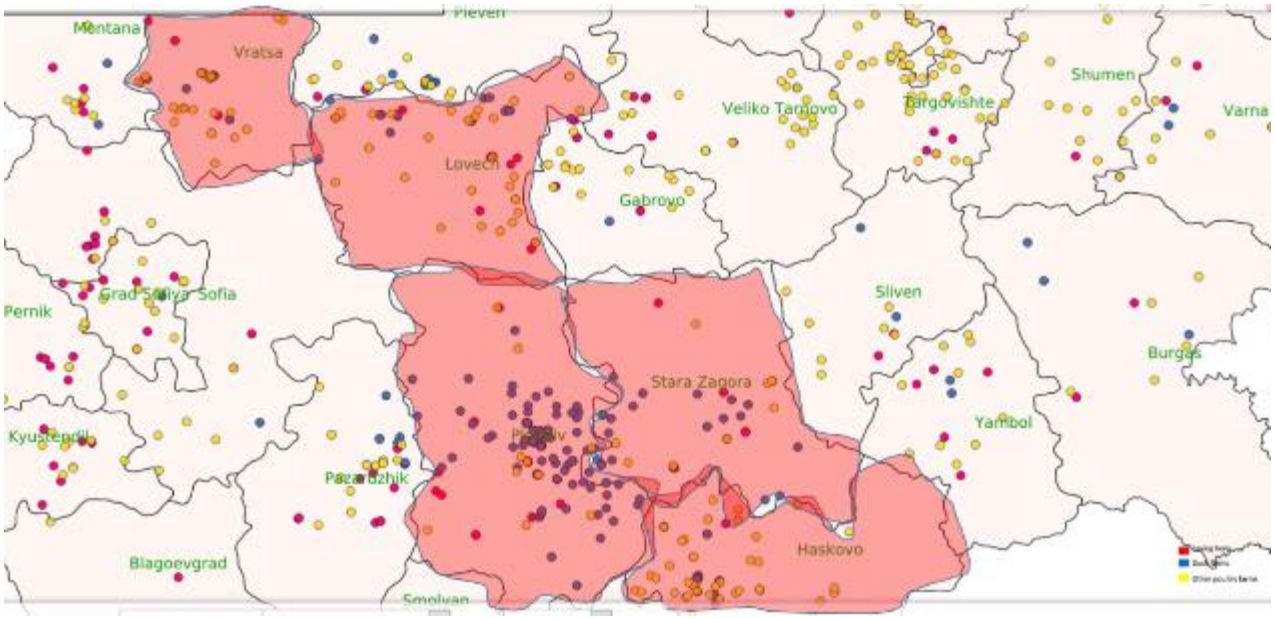
Control measures in Bulgaria (2)

Since the beginning of 2020

- Ban of outdoor keeping;
- Ban of live poultry market, competition, exhibitions;
- Enhanced official inspection for implementing the biosecurity measures in poultry holdings;
- Enhanced laboratory surveillance on waterfowl farms :
  - all farms in the regions of Plovdiv, Stara Zagora, Haskovo, Vratsa and Lovech
  - all farms which supply ducks from other EU MSs, where HPAI outbreaks have been confirmed;
- Laboratory surveillance in backyards

Control measures in Bulgaria (4)

Laboratory surveillance on poultry farms in risk zones in February 2020



Region	Holdings, n			Laboratory sampled holdings			Samples, n (PCR tests)			Samples, n (PCR tests)			Results
	Duck farms	Laying hens farms	Captive	Duck farms	Laying hens farms	Captive	Duck farms	Laying hens farms	Captive	Duck farms	Laying hens farms	Captive	Pos/Neg
Vratsa	10	3	1	4	0	1	80	0	20	80	0	20	Neg
Lovech	9	7	1	6	0		120	0		120	0		Neg
Plovdiv	119	6	4	74	5	4	1480	32	200	1480	32	200	3 Pos
Stara Zagora	44	5	2	29	0		580	0		580	0		Neg
Haskovo	41	5	2	17	0		340	0		340	0		Neg
Total	**223**	**26**	**10**	**130**	**5**	**5**	**2600**	**32**	**220**	**2600**	**32**	**220**	**3 duck farms**

Control measures in Bulgaria (5)

Laboratory surveillance **on backyard** in March 2020

Enhanced laboratory surveillance, as follows:

- official control and serology/virology sampling of poultry backyard located in risk areas and 10 km zones around the outbreaks (Plovdiv, Stara Zagora, Haskovo, Kurdzhali)
- mainly G. Gallus spp. are reared in the backyard sector
- all samples were tested serologically negative.

serological investigation carried out in the backyard sector, March 2020

Region	Municipality	Total number of backyard	Total number of backyard	Poultry sampled, per species, n						Samples, n	Results (ELISA test)
				laing hens	pheasant	goose	ducks	turkeys	other		
Plovdiv	Rakovski, Brezovo, Maritsa	42	38	390	0	10	40	10	0	450	Negative
Stara Zago	Bratya Daskalovi	213	15	160	0	20	0	0	0	180	
Haskovo	Gorski izvor, Voivodovo, Garvanovo	319	13	175	0	0	0	0	0	175	
Kurdzhali	Perperek, Madrets, Dobrinovo	18	6	65	0	0	0	0	0	65	
Total		592	72	790	0	30	40	10	0	870	

Further control measures in Bulgaria (1)

1. Reorganization of duck sector – the whole technology cycle/life in one holding or different but belonging to the same owner/company. This measure aims at decreasing the movement of ducks from farm to farm and avoiding one farm (gavage) to be used by different owners/companies.

2. Transport of ducks – separate transport means to be used for ducks and Galliformes. GPS equipment for all poultry transport means in order to allow the traceability of poultry movement.

3. Established a sanitary period of at least 21 days (one incubation period) - a ban for restocking of the duck farms (2.05.2020 - 28.05.2020) and for slaughtering of ducks (24.07.2020 - 23.08.2020) :

- decreasing the duck population;
- cleaning and disinfection of farms.

Further control measures in Bulgaria (2)

- Total number of duck farms for fattening in Bulgaria - 291, of which 137 farms have ceased operations.
- Planned filling of farms after the end of the sanitary period and the cleaning and disinfection activities indicated half of the farms (72 farms), and 77 farms do not yet have a plan for restocking ducks.
- The sanitary period (minimum 21 days) for each farm is planned individually, depending on the restocking of poultry and schedules of slaughter.
- Planned sanitary periods of the farms, %:

  - 17 % of the farms in May;
  - 49% in June;
  - 34% in July;
  - 2 farms routinely apply two sanitary periods per year.

- Inspections have been started since 10.06.2020 – ban for restocking in 10% of inspected farms.

Further control measures in Bulgaria (3)

1. Improving/upgrading national database – functionality of the system to be upgraded to allow making the link between poultry holdings (technology or legal links).

2. Enhanced laboratory surveillance, as follows:
   - official control and serology/virology sampling of poultry backyard located in risk areas (areas with high density of poultry holdings and areas with high population of migratory wild birds);
   - routine official control 4 times per year at least in duck farms and serology sampling of all herds at 45-65 days old present in the farm at the tame of visit. The official control will replace the current self- control;
   - laboratory testing for N subtypes different form N8.

3. Increased official inspections ensuring the implementation of the biosecurity measures in poultry farms - two times per year in risk areas mentioned above (in duck sector these check to be part of the inspections related to the laboratory surveillance)

4. Sanitary period (21 days minimum) - two times per year to be planned individually for each duck farm

5. Amendment of the legislation regarding the compensation scheme in case of outbreaks

- a compensation scheme that incentives early reporting (compensation for poultry dead since the suspicion);

- % financial reduction based on the infringements detected before the outbreak confirmation and during the epidemiological investigation (4 farms (out of 8 farms with HAPI confirmed) were rejected so far)

THANK YOU!

Bulgarian Food Safety Agency
15A Pencho Slaveikov blvd.
1606 Sofia, Bulgaria
tel.: 00359 2 915 98 20
e_mail: ceo@bfsa.bg

Animal Health Department
tel.: 00359 2 915 98 42
e_mail: ahwfc@bfsa.bg;
http://babh.government.bg/bg/Page/ah/index/ah/Здравеопаз