Monitoring ANIMAL HEALTH

Poultry | April 2024

Low-pathogenic bird flu detected

It is remarkable that virtually no antibodies against low-pathogenic avian influenza (LPAI) viruses were detected in commercial poultry during the outbreak of highly pathogenic AI (HPAI) H5N1 in 2022 and the first three quarters of 2023.

Antibodies against LPAI

The most recent AI-positive serum samples dated from March 2022 (antibodies against LPAI-H6N8). It wasn't until the end of November 2023, that antibodies against low-pathogenic avian influenza were detected again using the AI ELISA. So far, antibodies have been detected in a broiler flock (against H3N3) and at six laying farms (against H9Nx, H5N4, H7N3, H6N2 and H5N1) spread across the country. At the time of writing, further analyses are being carried out for two additional farms housing laying hens; all that is known to date is that the positive ELISA results have not been caused by H5 or H7. Decreases in production and/or feed intake were noted in several of the laying flocks before the blood sampling moment, though it has not been demonstrated that these observations were caused by the LPAI infection.

LPAI virus detected

A team of specialists led by the Food and Consumer Products Safety Authority (NVWA) visited three laying farms, based on the positive serology for H5 or H7 antibodies. At the end of November, the LPAI-H7N3 virus was detected by PCR in addition to the positive serology at one farm with minor production problems. This subtype was also detected in Scotland in 2023, and in the United States in preceding years. The farm's flock was not culled but the NVWA did block it while the virus was present, a period that lasted several weeks. For the other farm that had positive serology at the end of the production period, PCR showed the LPAI-H5N4 virus to be present. This subtype is new in the Netherlands (for commercial poultry). It has however previously been detected in waterfowl and seagulls in Germany, with the virus being composed of genes found in different AI viruses in Europe and Asia. At the third farm, the LPAI-H5N1 virus was detected. Strikingly, the virus did not cause clinical symptoms in the first bird houses where it was detected. There were clinical symptoms in the houses where it was detected later on, however. There was a drop in feed intake, increased mortality and an extremely severe drop in production of over 80 per cent. The three farms were blocked while the virus was present, rather than having their flocks culled.

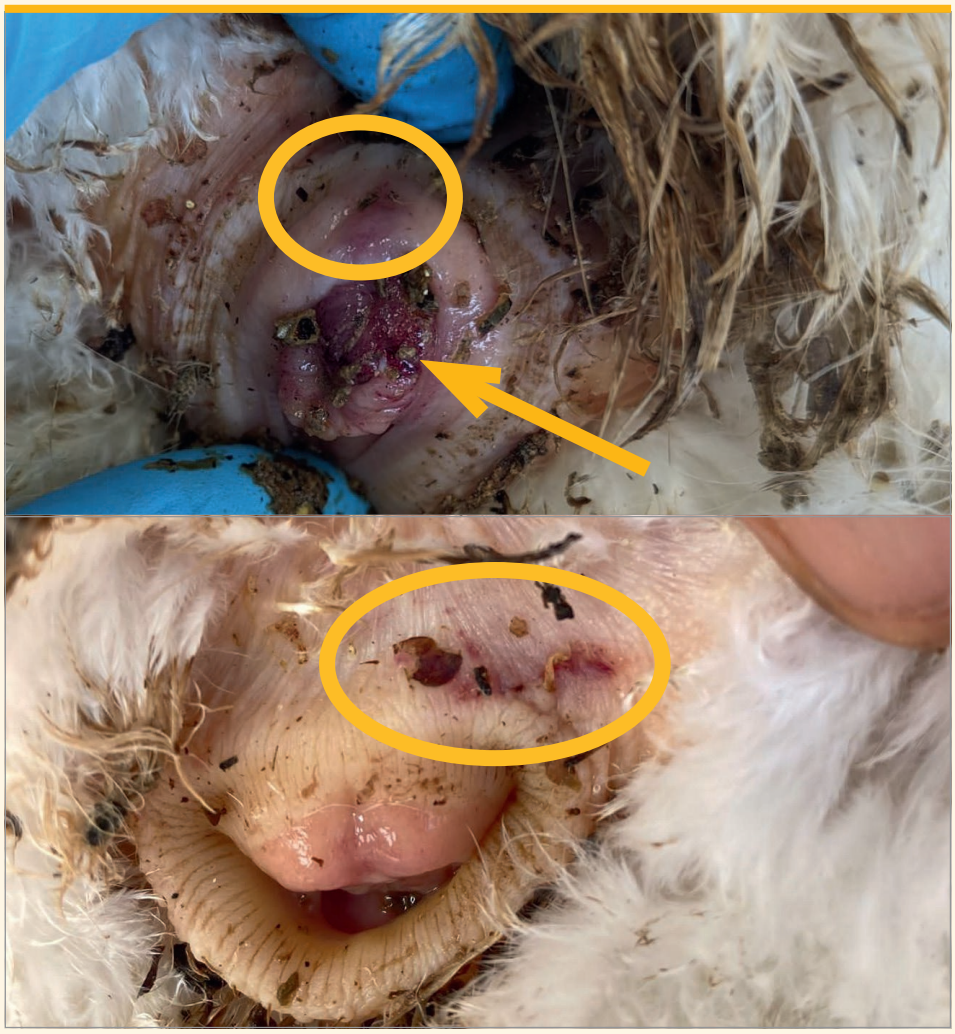
Clinical *Salmonella* Enteritidis among laying hens

Salmonella Enteritidis (SE) is first and foremost known for its zoonotic nature and is less well-known as a pathogen causing disease in poultry. However, in chicks that get infected either in the egg or immediately after hatching, losses can reach 10 per cent in the first week. In adult laying hens, SE can sometimes cause production losses for extended periods. Last year, this led to a set of laying hens being sent in for necropsy that presented variable gross lesions. Bacteriological examination of the bone marrow resulted in pure cultures of SE. The flock was declared to be infected which meant that the eggs could only be used after (heat) treatment against salmonella and could not be sold as fresh eggs to consumers.

Increased reports of cloacitis

Following a rise in the number of reports of cloacitis among broiler breeders, GD started a research project, asking veterinarians to report cases of cloacitis. This resulted in eleven submissions of broiler breeder birds for necropsy. One of the most striking symptoms was dirt around the vent of the affected birds (sometimes with a white discharge as well). While dirty vents can also have other causes, the cases of cloacitis had additional findings which included internal injuries and damage to the cloaca. This damage ranges from superficial trauma of the cloacal mucosa to deeper inflammation and ulceration. Given that severe cases of this condition can lead to systemic infections or other complications, affected flocks suffered increased losses.

In general, the severity of the injuries ranged from superficial to deep, with traumatic wounds and inflammation in both the cloaca and adjacent areas (see photos). Although the exact cause of the cloacitis in broiler pullets was not determined, microbial infections and parasitic burdens were detected that may have played a part in the trauma. An as yet unidentified mycoplasma species was detected and it could not be ruled out that this plays a role, and of course a potential role of other pathogens could not be excluded either. Pecking, management, metabolism and nutrition (energy, acid-base balance, calcium) remain as potential factors, making it likely that the cloacitis cases represent the outcome of a highly multifactorial complex of underlying problems.



Photos:
Left: cloacitis with superficial damage (circled) and an arrow showing internal hyperaemia;
Right: skin around the cloaca damaged as a result of external trauma such as pecking
(Source: GD)

Animal health barometer for poultry

Disease/disorder/ health characteristic	Brief description (numbers at farm level)	1st quarter 2023	2nd quarter 2023	3rd quarter 2023	4th quarter 2023	Trend (OVER 2 YEARS)
Execution decree (EU) 2018/1882 of the Animal Health Regulation (AHR) (EU) 2016/429 (Category A disease)						
Avian influenza (AI) in the Netherlands (H5/H7) (Source: GD, WBVR, national government)	**Highly pathogenic AI (H5/H7)*:** * *In commercial poultry and non-commercial kept poultry with >50 birds.*	**H5(N1):** Commercial: 3 farms Kept poultry >50 birds: 1x	**H5N1:** Not detected	**H5N1:** Commercial: 1 farm	**H5N1:** Commercial: 2 farms Kept poultry >50 birds: 2x	↓
	Serological monitoring by GD: (first detection in flock) (antibodies for H5/H7)	Not detected	Not detected	Not detected	2 farms	↑
ND in the Netherlands (Source: GD, WOAH)	Commercial poultry:	Not detected	Not detected	Not detected	Not detected	-
Execution decree (EU) 2018/1882 of the Animal Health Regulation (AHR) (EU) 2016/429 (Categories B through E)						
Avian influenza (AI) in the Netherlands (H5/H7) (Source: GD, WBVR, national government)	**Low pathogenic AI (H5/H7):**	Not detected	Not detected	Not detected	2 farms	↑
Campylobacteriosis	No data available	-	-	-	-	N/A
Avian mycoplasmosis (source: GD)						
Mycoplasma gallisepticum[A]	**Serological monitoring by GD:**					
	Reproduction sector:	0 farms	0 farms	0 farms	0 farms	↓
	Layer pullets:	0 farms	0 farms	0 farms	0 farms	-
	Layers:					
	- not vaccinated and infected:	3 farms	1 farm	1 farm	0 farms	↓
	- vaccinated and infected:	1 farm	2 farms	0 farms	2 farms	↓
	Turkeys:	0 farms	0 farms	0 farms	0 farms	↓
	Cases in EWS[C] based on positive serology and/or voluntary PCR testing:					
	Reproduction sector:	-	-	-	1 case	↓
	Layers:	4 cases	3 cases	1 case	1 case	↓
	Turkeys:	-	-	-	-	↓
	Non-commercial poultry:	2 cases	3 cases	3 cases	5 cases	↑
M. meleagridis (source: GD)		N/A	N/A	N/A	N/A	N/A
Salmonellosis (non-zoonotic salmonella) (source: GD)						
Salmonella arizonae		N/A	N/A	N/A	N/A	N/A
Salmonella Gallinarum (SG)	Commercial poultry:	-	-	-	-	-
	Non-commercial poultry:	-	-	-	-	-
Salmonella Pullorum (SP)	Commercial poultry:	-	-	-	-	-
	Non-commercial poultry:	-	1 case	-	-	-
West Nile fever	Not monitored	N/A	N/A	N/A	N/A	N/A
Article 2.1 Designation of animal diseases in the 'Rules for Animal Health' of the Dutch Animal Act						
Avian chlamydiosis (Source: GD)		Not detected by GD	Not detected by GD	Not detected by GD	Not detected by GD	-
Article 2.2 Designation of zoonoses in the 'Rules for Animal health' of the Dutch Animal Act						
Salmonellosis (zoonotic salmonella) (at the flock level) (Source: NVWA)						
Salmonella Enteritidis	Reproduction:	0 flocks	0 flocks	0 flocks	2 flocks	-
	Layer pullets:	0 flocks	0 flocks	0 flocks	0 flocks	-
	Layers:	3 flocks	25 flocks	19 flocks	25 flocks	↑
Salmonella Typhimurium	Reproduction:	0 flocks	0 flocks	0 flocks	1 flock	-
	Layer pullets:	0 flocks	0 flocks	0 flocks	0 flocks	-
	Layers:	1 flock	0 flocks	0 flocks	1 flock	-
Other types of salmonella (*S.* Hadar, *S.* Infantis, *S.* Java, *S.* Virchow)	Reproduction:	0 flocks	0 flocks	0 flocks	0 flocks	-

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Table continuation

Disease/disorder/ health characteristic	Brief description (numbers at farm level)	1st quarter 2023	2nd quarter 2023	3rd quarter 2023	4th quarter 2023	Trend (OVER 2 YEARS)
Other WOAH-list poultry diseases in the Netherlands subject to compulsory notification						
Duck viral hepatitis (Source: GD)		Not detected by GD	Not detected by GD	Not detected by GD	Not detected by GD	-
Gumboro (IBD) (Source: GD; EWS)	**Reported in EWS[C]:**					
	Broilers:	11 cases	16 cases	6 cases	7 cases	ã
	Layer breeders pullets:	-	-	-	-	-
	Layer pullets:	-	-	-	1 case	-
	Non-commercial poultry:	-	-	-	-	-
Infectious bronchitis (IB) (Source: GD)	**Types most commonly detected by GD:**	QX(D388)	QX(D388)	QX(D388)	QX(D388)	
	Broilers:	4/91-793B	4/91-793B	4/91-793B	4/91-793B	
	Layers:					
Infectious laryngotracheitis (ILT) (Source: GD; EWS)	**Reported in EWS[C]:**					
	Layer breeders:	-	-	-	-	-
	Layer pullets:	-	-	-	-	↓
	Layers:	1 case	1 case	2 cases	1 case	↑
	Broiler breeders:	-	-	1 case	1 case	↑
	Broilers:	-	-	-	-	-
	Non-commercial poultry:	2 cases	3 cases	5 cases	1 case	↑
Mycoplasma synoviae[B] (Source: GD)	**Serological monitoring and/or dPCR GD:**			**% of farms positive versus farms tested**		
	Broiler grandparents pullets:	0%	0%	0%	0%	-
	Broiler grandparents:	0%	0%	0%	0%	-
	Broiler breeder pullets:	33%	11%	11%	67%	↑
	Broiler breeders:	40%	26%	17%	30%	↑
	Layer grandparents pullets:	0%	0%	0%	0%	-
	Layer grandparents:	0%	0%	0%	0%	-
	Layer breeders pullets	0%	0%	0%	0%	-
	Layer breeders:	16%	17%	15%	15%	-
	Layer pullets:	12%	22%	18%	16%	↑
	Layers:	76%	72%	65%	63%	↓
	Turkeys:	5%	0%	11%	0%	↓
Turkey rhinotracheitis (TRT) (Source: GD)	**Detected by GD:**					
	Broiler reproduction sector (incl. pullets)	-	-	-	-	
	Layer reproduction sector (incl. pullets)	-	-	-	1 farm	
	Broilers:	1 farm	3 farms	-	-	
	Layer pullets:	-	-	-	-	
	Layers:	-	-	-	2 farms	
	Meat turkeys:	1 farm	-	1 farm	1 farm	

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Royal GD
P.O. Box 9, 7400 AA Deventer
The Netherlands

T. +31 (0)88 20 25 575
info@gdanimalhealth.com
www.gdanimalhealth.com

Table continuation

Disease/disorder/ health characteristic	Brief description (numbers at farm level)	1st quarter 2023	2nd quarter 2023	3rd quarter 2023	4th quarter 2023	Trend (OVER 2 YEARS)
Other poultry diseases						
Avibacterium paragallinarum (Source: GD; EWS)	**Reported in EWS[C]:**					
	Layers:	4 cases	4 cases	2 cases	3 cases	-
	Non-commercial poultry:	1 case	4 cases	5 cases	6 cases	↑
Histomonosis (Source: GD)	**Detected by GD:**					
	Reproduction (meat sector):	2 farms	-	3 farms	2 farms	
	Reproduction (layer sector):	-	1 farm	1 farm	1 farm	
	Layer pullets:	-	-	-	-	
	Layers:	-	-	1 farm	3 farms	
	Meat turkeys:	-	-	-	-	
	Non-commercial poultry:	-	1 case	-	-	
Pasteurella multocida (Source: GD)	**Detected upon necropsy:**	-	-	-	-	
	Broiler breeder pullets:	-	-	-	-	-
	Layer breeders:	3 farms	4 farms	4 farms	2 farms	-
	Layers:	-	-	-	-	↑
	Ducks:	-	-	-	-	-
	Turkeys:					-
Erysipelas *(Erysipelothrix rhusiopathiae)* (Source: GD)	**Detected by GD:**					
	Layers:	1 farm	1 farm	-	4 farms	↑

↑↑ Increase or strong increase
↑ Limited increase
- Situation unchanged
↓ Limited decrease
↓↓ Limited decrease

A Based on serological monitoring
B Based on serological monitoring and/or differentiating M.s.-PCR
C Early Warning System

Monitoring ANIMAL HEALTH

Animal health monitoring

Since 2002, Royal GD has been responsible for animal health monitoring in the Netherlands, in close collaboration with the veterinary sectors, the business community, the Ministry of Agriculture, Nature and Food Quality, vets and farmers. The information used for the surveillance programme is gathered in various ways, whereby the initiative comes in part from vets and farmers, and partly from Royal GD. This information is fully interpreted to achieve the objectives of the surveillance programme – the rapid identification of health problems on the one hand and the following of more general trends and developments on the other. Together, we team up for animal health, in the interests of animals, their owners and society at large.