Monitoring
ANIMAL HEALTH



Avian influenza and vaccination

After a few quiet months, the Netherlands once again witnessed outbreaks of highly pathogenic avian influenza in November and early December 2023, affecting both commercial and non-commericial poultry flocks. While the outbreak at the end of July 2023 in commercial layers still involved the variant commonly referred to as the 'gull variant,' this was no longer the case for the outbreaks in November and December 2023. A new variant of the H5N1 virus was identified in the outbreaks on 11th, 14th and 15th of November. This virus shares similarities with the strain that has caused numerous outbreaks since 2021. Additionally, this new variant of the H5N1 virus has been detected in wild ducks and geese. Since November 2023, there has been an increase in mortality among these animals. (source: WUR; New variant of avian influenza virus in Renswoude).

Carcass sampling and remote screening

During the outbreak on 11 November in Renswoude, the two neighboring farms within the 1-kilometer zone were not preemptively culled. Instead, the Ministry of Agriculture, Nature, and Food Quality has implemented carcass sampling for outbreaks on farms in poultry-dense areas, in addition to the already established remote screening protocol. Carcass sampling is conducted by Royal GD. Swabs are taken from the trachea and cloaca of deceased birds for PCR testing to detect the presence of avian influenza virus. Up to five deceased birds per farm within the 1-kilometer zone are collected and transported to GD daily for testing. Every other day, this will also happen for the remaining farms within the 3-kilometer zone. Carcass sampling is performed during 10 days after the outbreak. Additionally, all these farms undergo daily remote screening for 14 days. The purpose of the combination of carcass sampling and remote screening is to detect possible spreading of the virus, therefore making preemptive culling of farms within the 1-kilometer zone unnecessary and swiftly detecting and tackling of infections within the 3-kilometer zone.

Vaccination

The avian influenza (AI) field trial is currently in full swing. On 15th of September 2023, pullets were vaccinated with various promising vaccines targeting the H5 segment of the avian influenza virus and were subsequently placed at a rearing farm in the Netherlands. These vaccines have undergone prior testing in laboratory conditions, showing promising outcomes. The AI field trial aims to assess the effectiveness of the vaccines in birds kept in field conditions.

Throughout the rearing and production period, animals from the AI field trial will be deliberately exposed to the highly pathogenic H5N1 virus in controlled environments at the research facilities of Wageningen Bioveterinary Research (WBVR) in Lelystad. This exposure will help evaluate the efficacy of the vaccines. The initial results of the trial will be published later this year.
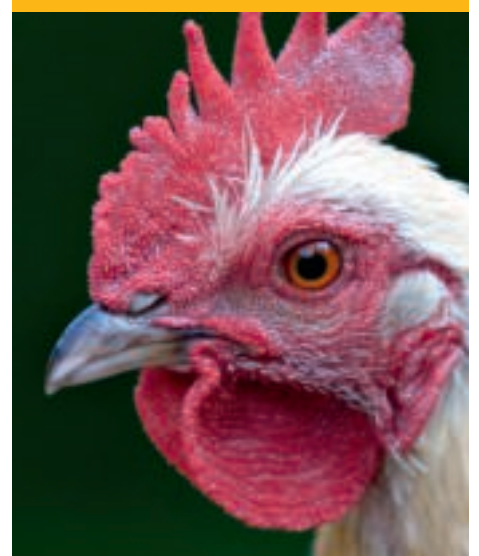
Update reovirus tenosynovitis: majority of cases due to new genotype

Since early 2023, there has been a notable surge in cases of reovirus-induced tenosynovitis. Initially, there was no significant spread of isolates observed. However, a new cluster within genogroup 4 emerged in the second quarter of 2023. This cluster comprised submissions from five regular broiler farms and six broiler farms with a slower-growing broiler breed. In the third quarter, 27 out of 57 cases were linked to this cluster, with an additional 29 out of 48 cases reported in October. A total of 69 submissions were involved, including 11 from regular broilers, 57 from slower-growing broilers, and one from layer pullets. Notably, five cases involved recurrent infections in a newly established flock on farms that had previously experienced infections with the same genotype. Additionally, eleven cases involved submissions from multiple houses on the same farm.

New cluster within genogroup 4

This cluster appears to be caused by a new strain that is rapidly spreading within the sector, causing significant damage. This marks the first instance of such a rapid and extensive spread within one subgroup. The mechanism behind this widespread transmission remains unclear. Horizontal transmission likely plays a role, but vertical transmission cannot be ruled out. The reasons behind the high number of cases caused by this virus are unclear. It is possible that it spreads more easily than other reoviruses, is more pathogenic, or that existing vaccines offer less protection against this particular virus. Nevertheless, the approach remains consistent with other reovirus infections, emphasizing robust biosecurity measures to prevent introduction of the virus. Cleaning and disinfection focused on naked viruses are essential to prevent early infections in subsequent flocks.

Interestingly, in four of the five farms with recurrent infections, the reovirus skipped a production cycle. This may be attributed to a new introduction, or it's plausible that although the virus was initially suppressed, it persisted in the barn only to resurface. This underscores the importance of thorough cleaning and disinfection, not just following clinical diseases.
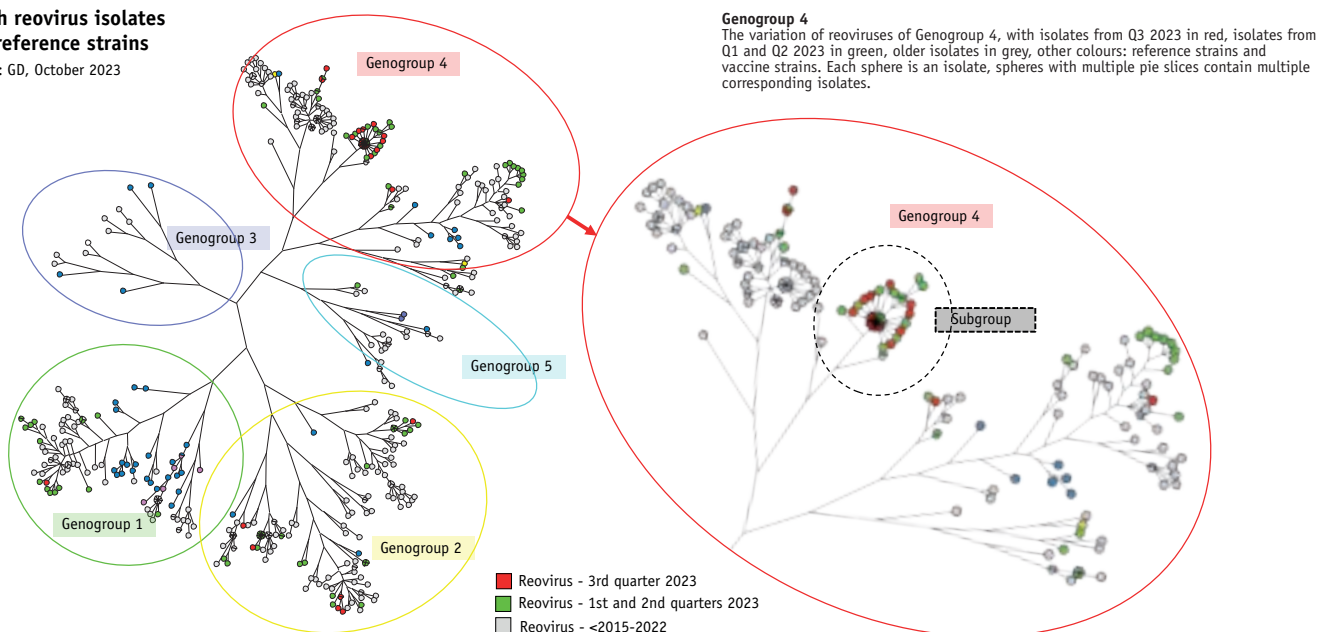
Several ongoing studies are part of monitoring efforts. More information is being gathered on the outbreak of the new genotype. Additionally, VMP (Veterinary Monitoring Poultry) started a project to investigate the effectiveness of cleaning and disinfection procedures.

Attention to farm and hygiene management

In general, with increasing pathogen pressure in the poultry sector, it is important to pay attention to optimalisation of poultry health besides farm and hygiene management within the entire sector.

Dutch reovirus isolates and reference strains
Source: GD, October 2023

Genogroup 4
The variation of reoviruses of Genogroup 4, with isolates from Q3 2023 in red, isolates from Q1 and Q2 2023 in green, older isolates in grey, other colours: reference strains and vaccine strains. Each sphere is an isolate, spheres with multiple pie slices contain multiple corresponding isolates.

Genogroup 4
Genogroup 3
Genogroup 5
Genogroup 1
Genogroup 2
Subgroup

Reovirus - 3rd quarter 2023
Reovirus - 1st and 2nd quarters 2023
Reovirus - <2015-2022

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 in backyard situations with >50 animals.	**H5(N1):** Commercial: 3 farms Backyard poultry: 1x	**H5N1:** Not detected	**H5N1:** Commercial: 1 farm		⬇
	Serological monitoring by GD: (first detection in flock) *(Antibodies for H5/H7)*	Not detected	Not detected	Not detected		-
ND in the Netherlands (Source: GD, WOAH)	Commercial poultry:	Not detected	Not detected	Not detected		-
Execution decree (EU) 2018/1882 of the Animal Health Regulation (AHR) (EU) 2016/429 (Categories B through E)						
Campylobacteriosis	No data available	-	-	-		N/A
Avian influenza (AI) in the Netherlands (H5/H7) (Source: GD, WBVR, national government)	**Low pathogenic AI (H5/H7):**	Not detected	Not detected	Not detected		-
Avian mycoplasmosis (Source: GD)						
M. gallisepticum[A]	**Serological monitoring by GD:** Reproduction sector: Layer pullets: Layers: - *not vaccinated and infected:* - *vaccinated and infected:* Turkeys:	0 farms 0 farms 3 farms 1 farm 0 farms	0 farms 0 farms 1 farm 2 farms 0 farms	0 farms 0 farms 1 farm 0 farms 0 farms		⬇ - ⬇ ⬇ ⬇
	Cases in EWS[c] based on positive serology and/or voluntary PCR testing: Reproduction sector: Layers: Turkeys: Backyard poultry:	- 4 cases - 2 cases	- 3 cases - 3 cases	- 1 case - 3 cases		⬇ ⬇ ⬇ ⬆
M. meleagridis (Source: GD)		N/A	N/A	N/A		N/A
Salmonellosis (non-zoonotic salmonella) (Source: GD)						
Salmonella arizonae		N/A	N/A	N/A		N/A
Salmonella Gallinarum (SG)	Commercial poultry: Backyard poultry:	- -	- -	- -		⬇ -
Salmonella Pullorum (SP)	Commercial poultry: Backyard poultry:	- -	- 1 case	- -		- ⬆
West Nile fever	Not monitored	N/A	N/A	N/A		N/A
Article 2.1 Designation of animal diseases '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		-
Article 2.2 Designation of zoonoses 'Rules for Animal health' of the Dutch Animal Act						
Salmonellosis (zoonotic salmonella) (at the flock level) (Source: NVWA)						
S. Enteritidis	Reproduction: Layer pullets: Layers:	0 flocks 0 flocks 3 flocks	0 flocks 0 flocks 25 flocks	0 flocks 0 flocks 19 flocks		- - ⬆
S. Typhimurium	Reproduction: Layer pullets: Layers:	0 flocks 0 flocks 1 flock	0 flocks 0 flocks 0 flocks	0 flocks 0 flocks 0 flocks		- - -
Other types of Salmonella (S. Hadar, S. Infantis, S. Java, S. Virchow)	Reproduction:	0 flocks	0 flocks	0 flocks		-

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						
Infectious laryngotracheitis (ILT) (Source: GD; EWS)	**Reported in EWS^C:**					
	Layer breeders:	-	-	-		-
	Layer pullets:	-	-	-		-
	Layers:	1 case	1 case	2 cases		⬆
	Broiler breeders:	-	-	1 case		-
	Broilers:	-	-	-		-
	Backyard poultry:	2 cases	3 cases	5 cases		⬆
M. synoviae^B (Source: GD)	**Serological monitoring and/or dPCR by GD:**	**% of positive farms versus farms tested**				
	Broiler grandparents pullets:	0%	0%	0%		-
	Broiler grandparents:	0%	0%	0%		-
	Broiler breeders pullets:	33%	11%	11%		⬆
	Broiler breeders:	40%	26%	17%		⬇
	Layer grandparents pullets:	0%	0%	0%		-
	Layer grandparents:	0%	0%	0%		-
	Layer breeders pullets	0%	0%	0%		-
	Layer breeders:	16%	17%	15%		⬆
	Layer pullets:	12%	22%	18%		⬆
	Layers:	76%	72%	65%		-
	Turkeys:	5%	0%	11%		⬇
Infectious bronchitis (IB) (Source: GD)	**Types most commonly detected by GD:**					
	Broilers:	QX(D388)	QX(D388)	QX(D388)		
	Layers:	4/91-793B	4/91-793B	4/91-793B		
Gumboro (IBD) (Source: GD; EWS)	**Reported in EWS^C:**					
	Broilers:	11 cases	16 cases	6 cases		⬆
	Layer breeder pullets:	-	-	-		-
	Backyard poultry:	-	-	-		-
Turkey Rhinotracheitis (TRT) (Source: GD)	**Detected by GD:**					
	Reproduction (meat sector):	-	-	-		
	Broilers:	1 farm	3 farms	-		
	Layer pullets:	-	-	-		
	Layers:	-	-	-		
	Meat turkeys:	1 farm	-	1 farm		
Other poultry diseases						
Erysipelas *(Erysipelothrix rhusiopathiae)* (Source: GD)	**Detected by GD:**					
	Layers:	1 farm	1 farm	-		⬇
Histomonosis (Source: GD)	**Detected by GD:**					
	Reproduction (meat sector):	2 farms	-	3 farms		
	Reproduction (layer sector):	-	1 farm	1 farm		
	Layer pullets:	-	-	-		
	Layers:	-	-	1 farm		
	Meat turkeys:	-	-	-		
	Backyard poultry:	-	1 case	-		
Avibacterium paragallinarum (Source: GD; EWS)	**Reported in EWS^C:**					
	Layers:	4 cases	4 cases	2 cases		⬇
	Backyard poultry:	1 case	4 cases	5 cases		⬆

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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)
Pasteurella multocida (Source: GD)	**Detected upon necropsy:**					
	Broiler breeder pullets:	-	-	-		-
	Layer breeders:	-	-	-		-
	Layers:	3 farms	4 farms	4 farms		-
	Ducks:	-	-	-		-
	Turkeys:	-	-	-		-

⬆ Increase or strong increase
⬆ Limited increase
- Situation unchanged
⬇ Limited decrease
⬇ Decrease or strong decrease

A *Based on serological monitoring*
B *Based on serological monitoring and/or the 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.