

# Monitoring

## ANIMAL HEALTH



### Sepsis due to *Ornithobacterium rhinotracheale*

*Ornithobacterium rhinotracheale* (OR) is a bacterium known to cause respiratory problems such as airsacculitis pneumonia, of which the sequelae are found upon slaughter as cheesy exudate. Treatment with antibiotics is often insufficiently effective. The main economic damage resulting from infections is the increased condemnation rate on the slaughter line. OR seems to be less prevalent in recent years.

In May 2020, Royal GD identified a very particular clinical syndrome in three broiler flocks (from two farms). There were increased losses in the flocks, with acute disease progression. Treatment with antibiotics resulted in a reduction in losses. It concerned sepsis due to infection with OR: pathology showed enlarged spleen and liver, and no abnormalities in the air sacs or lungs. No other bacteria were cultured and there was no sign of (toxins from) *Clostridium botulinum*. Examination for various viral pathogens, including AI, was negative (no pathogens detected). No epidemiological relationship was apparent between the two farms. At both farms, it was not limited to this single case, with sepsis caused by OR once again being detected in a following flock.

It is known that OR can occasionally cause inflammation in organs other than the air sacs or lungs, for example in joints or in the skull roof. However, the literature makes no mention of OR strains involved in a disease process causing sepsis without any respiratory symptoms.



### Situation update on highly pathogenic avian influenza (HPAI)

In October 2020, highly pathogenic avian influenza (HPAI) of the H5N8 type was detected in wild birds. Shortly afterwards, clinical cases of HPAI were also diagnosed in commercial poultry. In the Veekijker News of January 2021 (see [https://www.gdanimalhealth.com/-/media/Files/GDDiergezondheid/Monitoring/report-poultry\\_january\\_2021\\_WEB.ashx](https://www.gdanimalhealth.com/-/media/Files/GDDiergezondheid/Monitoring/report-poultry_january_2021_WEB.ashx)) GD reported on the clinical symptoms seen in various types of animals following infection with this virus. At the time of writing, eleven cases of HPAI have been diagnosed in layers, broiler breeders, broilers, turkeys and meat ducks. The last case was in February (see table 1, on page 2). Ten of the infections were H5N8 and one infection was a related H5N1. In addition, one other infection was detected with low pathogenic H5N2. Data from WBVR has shown that the HPAI virus is still circulating among wild birds. The risk of infection via the wild bird population is therefore still estimated as high.



**Table 1. Infections with high pathogenic and low pathogenic AI among commercial poultry in the Netherlands, from 2020 through March 2021**

Location	Type of poultry	Type	Date of results
Sint-Oedenrode	Layers (barn + free range)	HPAI-H5N8	19/02/2021
Moergestel	Turkeys	HPAI-H5N8	05/01/2021
Buitenpost	Broiler breeders	HPAI-H5N1	15/12/2020
Den Bommel	Layers (organic)	LPAI-H5N2	09/12/2020
Sint Annaparochie	Broilers	HPAI-H5N8	07/12/2020
Maasland	Poultry	HPAI-H5N8	05/12/2020
Hekendorp	Layers (barn)	HPAI-H5N8	22/11/2020
Witmarsum	Broilers	HPAI-H5N8	21/11/2020
Terwolde	Meat ducks	HPAI-H5N8	13/11/2020
Lutjegast	Layers (barn + free range)	HPAI-H5N8	10/11/2020
Puiflijk	Layers (barn)	HPAI-H5N8	05/11/2020
Altforst	Broiler breeders	HPAI-H5N8	29/10/2020

## Causes of peritonitis and sepsis in layers

Peritonitis is still the most common finding in layer mortality. Although various factors can increase the risk of peritonitis in hens (predisposing factors) such as stress and viral infections (for example IB), it is often a bacterial infection which eventually causes the animal's demise. Below is an overview of the bacteria cultured over the past three years, from hens suffering from peritonitis or sepsis. In almost 85 percent of the cases, *Escherichia coli* was detected. The table does

not include incidental findings such as *Salmonella* Enteritidis and *S. Pullorum*, both of which were found on two occasions over the three years.

### Erysipelas and avian cholera

*Erysipelothrix rhusiopathiae* (the pathogen causing erysipelas) was detected in 6.4 percent of the cases and *Pasteurella multocida* (the pathogen causing avian cholera) was detected in 5.6 percent. While such figures

seem insignificant, there is often great clinical impact of these pathogens on the flocks in question, particularly in the case of erysipelas. No clear trend has become visible over the years, they seem to occur on a reasonably stable basis. There is, however, a seasonal effect in the case of erysipelas, whereby the migration of vermin from the field to the barn may play a role in certain seasons.

**Table 2. The six most commonly cultured bacteria strains upon necropsy of hens suffering from peritonitis and/or sepsis. In 2018 through 2020, peritonitis and/or sepsis was detected in 450 submissions of layers for post mortem examination; the percentage occurrence during pathology, per bacteria, is given here** (Source: GD pathology)

Bacteria	Necropsy of layers in 2018-2020 with peritonitis and/or sepsis (n=450)
<i>E. coli</i>	84.7%
<i>Erysipelothrix rhusiopathiae</i>	6.4%
<i>Pasteurella multocida</i>	5.6%
<i>Gallibacterium anatis</i>	3.1%
<i>Enterococcus</i> spp.	2.2%
<i>Streptococcus</i> spp.	0.9%

# Animal health barometer for poultry 2020

Veterinary diseases	Brief description (numbers at farm level)	1 <sup>st</sup> quarter 2020	2 <sup>nd</sup> quarter 2020	3 <sup>rd</sup> quarter 2020	4 <sup>th</sup> quarter 2020	Trend (over 2 years)
<b>Article 15 GWWD (Health &amp; Welfare Act) diseases (diseases named in articles 3 and 7 of the 'Rules for prevention, control and monitoring of infectious animal diseases and zoonoses and TSEs')</b>						
Avian influenza in the Netherlands (H5/H7) <small>(Source: GD, WBVR, national government)</small>	<b>HPAI (H5/H7):</b>	Not detected	Not detected	Not detected	H5N1: 1 farm H5N8: 8 farms	↑
	<b>LPAI (H5/H7):</b>	Not detected	Not detected	Not detected	H5N2: 1 farm	-
	<b>Serology (first detection in flock):</b> (Antibodies for H5/H7)	2 flocks	Not detected	Not detected		-
Avian influenza in Europe (H5/H7) <small>(Source: OIE)</small>	<b>HPAI (H5/H7):</b>	<b>H5N8:</b> Various countries <b>H5:</b> Ukraine	<b>H5N8:</b> Bulgaria and Hungary	<b>H5N8:</b> Russia <b>H5N5:</b> Russia	Various types in various countries	↑
	<b>LPAI (H5/H7):</b>	<b>Denmark:</b> H5N1	<b>Italy:</b> H5N3 and H7N1	Not detected	<b>Belgium:</b> H5 <b>Italy:</b> H5 <b>UK:</b> H5N2	-
ND in the Netherlands <small>(Source: GD, OIE)</small>	Commercial poultry	Not detected	Not detected	Not detected	Not detected	-
ND in Europe <small>(Source: GD, OIE)</small>	Commercial poultry	No OIE reports	Macedonia: 1	No OIE reports	No OIE reports	-
<i>M. gallisepticum</i> <sup>A</sup> <small>(Source: GD)</small>	<b>Serological monitoring by GD:</b>					
	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:	1 farm	2 farms	0 farms	1 farm	-
	- vaccinated and infected:	4 farms	5 farms	2 farms	4 farms	↓
	Turkeys:	0 farms	0 farms	0 farms	0 farms	-
	<b>Reports in EWS<sup>C</sup> based on positive serology and/or voluntary PCR testing:</b>					
	Layers:	4 farms	7 farms	1 farm	3 farms	↓
	Backyard poultry	-	2 cases	-	3 cases	↑
<i>M. synoviae</i> <sup>B</sup> <small>(Source: GD)</small>	<b>Serological monitoring and/or dPCR by GD:</b>				<b>% of positive farms versus farms tested</b>	
	Grandparent stock (incl. pullets) (meat):	0%	0%	0%	0%	-
	Broiler breeder pullets:	8%	2%	4%	6%	-
	Broiler breeders:	26%	32%	29%	30%	↑
	Grandparent stock (incl. pullets) (layers):	0%	0%	0%	0%	-
	Layer breeders:	3%	6%	13%	15%	-
	Layer pullets:	35%	15%	21%	21%	-
	Layers:	76%	71%	72%	75%	-
	Turkeys:	10%	7%	24%	15%	-

Veterinary diseases	Brief description (numbers at farm level)	1 <sup>st</sup> quarter 2020	2 <sup>nd</sup> quarter 2020	3 <sup>rd</sup> quarter 2020	4 <sup>th</sup> quarter 2020	Trend (over 2 years)
<b>Salmonellosis (non-zoonotic salmonella)</b> (Source: GD)						
<i>Salmonella arizonae</i>		N/A	N/A	N/A	N/A	N/A
<i>Salmonella</i> Gallinarum (SG)		Not detected	Not detected	Not detected	Not detected	-
<i>Salmonella</i> Pullorum (SP)		Not detected	Layers: 1 farm	Not detected	Not detected	-
<b>Article 100 GWWD (Health &amp; Welfare Act) diseases (diseases named in article 10 of the 'Rules for prevention, control and monitoring of infectious animal diseases, zoonoses and TSEs')</b>						
Campylobacteriosis	No data available	-	-	-		N/A
<b>Salmonellosis (zoonotic salmonella) (at the flock level)</b> (Source: NVWA)						
S. Enteritidis	Reproduction:	9 flocks	0 flocks	1 flock	3 flocks	-
	Layer pullets:	0 flocks	0 flocks	0 flocks	0 flocks	-
	Layers:	10 flocks	7 flocks	6 flocks	6 flocks	↓
S. Typhimurium	Reproduction:	1 flock	0 flocks	3 flocks	0 flocks	-
	Layer pullets:	0 flocks	0 flocks	0 flocks	0 flocks	-
	Layers:	0 flocks	0 flocks	0 flocks	0 flocks	-
Other salmonella serotypes (Hadar (S.H.), Infantis (S.I.), Java (S.J.), Virchow (S.V.))	Reproduction:	0 flocks	S.I.: 1 flock	S.I.: 5 flocks	S.H.: 1 flock	↑
			S.H.: 1 flock	S.J.: 3 flocks		
<b>Other OIE-list poultry diseases in the Netherlands subject to compulsory notification</b>						
Avian chlamydia (Source: GD)		Not detected by GD	Not detected by GD	Not detected by GD	Not detected by GD	-
Gumboro (IBD) (Source: GD; EWS)	<b>Reported in EWS<sup>C</sup>:</b> Broilers:	6 farms	7 farms	10 farms	4 farms	↓
Infectious bronchitis (IB) (Source: GD)	<b>Types most commonly detected by GD:</b>					
	Broilers:	D388	D388	D388	D388	
	Layers:	4-91/D388/ D181	4-91/D388/ D181	D388/4-91	4-91	
Infectious laryngotracheitis (ILT) (Source: GD; EWS)	<b>Reported in EWS<sup>C</sup>:</b> Broiler breeders:	2 farms	-	-	-	-
	Broilers:	-	1 farm	-	2 farms	-
	Layers:	1 farm	-	-	-	-
	Backyard poultry:	1 case	-	1 case	2 cases	-
Turkey Rhinotracheitis (TRT) (Source: GD)	Detected by GD:					
	Broilers:	1 farm	4 farms	4 farms	1 farm	
	Layers:	-	-	-	1 farm	

- ↑ 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 DIVA M.s.-PCR  
C Early Warning System

Table continuation

Veterinary diseases	Brief description (numbers at farm level)	1 <sup>st</sup> quarter 2020	2 <sup>nd</sup> quarter 2020	3 <sup>rd</sup> quarter 2020	4 <sup>th</sup> quarter 2020	Trend (over 2 years)
<b>Other poultry diseases</b>						
Infectious Coryza ( <i>Avibacterium paragallinarum</i> ) (Source: GD; EWS)	<b>Reported in EWS<sup>C</sup>:</b>					
	Layers:	4 farms	4 farms	8 farms	3 farms	↓
	Backyard poultry:	1 case	2 cases	3 cases	5 cases	↑
<i>Erysipelas</i> ( <i>Erysipelothrix rhusiopathiae</i> ) (Source: GD)	<b>Detected by GD:</b> (first detection in flock):					
	Layers:	6 farms	2 farms	Not detected	Not detected	↓
<i>Pasteurella multocida</i> (Source: GD)	<b>Detected upon necropsy:</b>					
	Layer breeders:	-	-	-	1 farm	-
	Layers:	4 farms	4 farms	0 farms	2 farms	-
	Backyard poultry: <i>No reports to the NVWA</i>	-	-	-	1 case	-
Histomonosis (Source: GD)	<b>Detected by GD:</b>					
	Reproduction (meat sector):	2 farms	3 farms	6 farms	11 farms	↑
	Reproduction (layer sector):	1 farm	-	-	1 farm	-
	Layer pullets:	-	2 farms	-	1 farm	-
	Layers:	1 farm	2 farms	5 farms	2 farms	↑
	Backyard poultry:	-	-	-	1 case	-

- ↑ Increase or strong increase
- ↑ Limited increase
- Situation unchanged
- ↓ Limited decrease
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## 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 – rapid identification of health problems on the one hand and monitoring trends and developments on the other. Together, we team up for animal health, in the interests of animals, their owners and society at large.