Monitoring Animal Health

Poultry

Highlights Report, First Quarter 2015

AI: staying alert

AI last year

Avian Influenza virus was detected at eight farms last year. This concerned three cases of low-pathogenic AI (H5N2, H5N1 and H9N1). The birds at farms with H5 were culled. High-pathogenic type H5N8 avian flu was detected at five farms at the end of last year. Luckily these infections were detected early, thus limiting the outbreak. In 2014, another 19 farms also tested positive for avian flu in the blood (antibodies detected).

AI in the 1st quarter of 2015

Two farms tested positive for low-pathogenic H7N7 in the first quarter of 2015. And so the AI situation remains tense. Furthermore, the situation in the US can be described as severe, with the high-pathogenic outbreaks of AI. The main infections detected there were HPAI-H5N8 and H5N2. From late December to early June, 219 poultry farms were found to be infected in the US, and 47 million animals were culled. In other parts of the world too, including Europe, avian flu (incl. H5 and H7) continues to be a problem. Taking into account the migratory birds in the world, there is always a real risk of infected birds returning to the Netherlands.

AI monitoring is effective in the Netherlands, thanks to serological monitoring, compulsory reporting of clinical signs and the possibility to rule out AI as the cause of disease with the aid of AI exclusion swabs. It is of course vital that these monitoring tools are deployed consistently. There is good compliance with submittal of blood samples for AI monitoring. However, the number of exclusion swabs submitted by vets varies greatly per practice and a number of poultry veterinarian practices could certainly submit more. It is in the best interests of the sector to detect AI in the earliest possible stage, in order to prevent a crisis such as that of 2003 or the current US crisis.

Short news

- Over the past quarter, a remarkable number of submissions of ducks were sent to GD Animal Health in which a fungus infection (*Aspergillus fumigatus*) was detected. This concerned 5x flocks of meat ducks and 1x rearing breeder ducks. Besides these cases, the fungus was also detected in two pet birds. In the past, infected flocks were treated with enilconazole, but there is no longer such a product registered.
- The Early Warning System (EWS) reports 7 cases of Gumboro in the past three months (6x broilers and 1x rearing layers) and 2 ILT reports (broiler breeders).

Information that is used for the surveillance is collected from different sources. The initiative comes in part from veterinarians and farmers, and partly from GD Animal Health. The information is fully interpreted to achieve the objectives of the surveillance programme, the rapid identification of health problems on the one hand and the monitoring of more general trends and developments on the other. The Dutch Ministry of Economic Affairs and the poultry sector (AVINED) financially support the surveillance programme.

Surveillance pilot: losses in the first week of life

Within the animal health monitoring there were possibilities for research into complicated health problems in the poultry sector whose origins are as yet unknown. Previous surveillance flyers have described how GD Animal Health has initiated a number of surveillance pilots for this purpose. Selected veterinary practices cooperated in these surveillance pilots; these are vets who participate in VMP (Veterinary Monitoring of Poultry) or who work with at least ten farms in the poultry sector. The results of the pilots are discussed with these veterinary practices before being communicated to the sector.

First surveillance pilot complete

GD Animal Health began the first monitoring pilot 'Losses in the first week of life' in mid August 2014. The final report giving the results of this pilot was published in May 2015. The results gave insight into the pathogens which play a role in the loss of broilers and rearing broiler breeders at Dutch poultry farms, in the first week of their life.

Study group

The study concerned 407 birds from 22 broiler flocks and 8 (broiler) rearing breeder flocks with an average loss of 2.8 percent in the first week of life.

Results

The 'Losses in the first week of life' surveillance pilot showed the losses to occur in days 2 and 3, which had a primarily bacterial source, in which a septic progressive *E.coli* infection was detected in all flocks. The main abnormality detected at necropsy was pericarditis (inflammation of the heart sac), though perihepatitis (inflammation of the liver coating), inflammation of the air sac, joints and navel was also regularly detected. Treatment with antibiotics was justifiable in infected flocks.

Remarkable findings

There was a remarkably low percentage of yolk sac infection, which suggests that this is not a significant infection route.

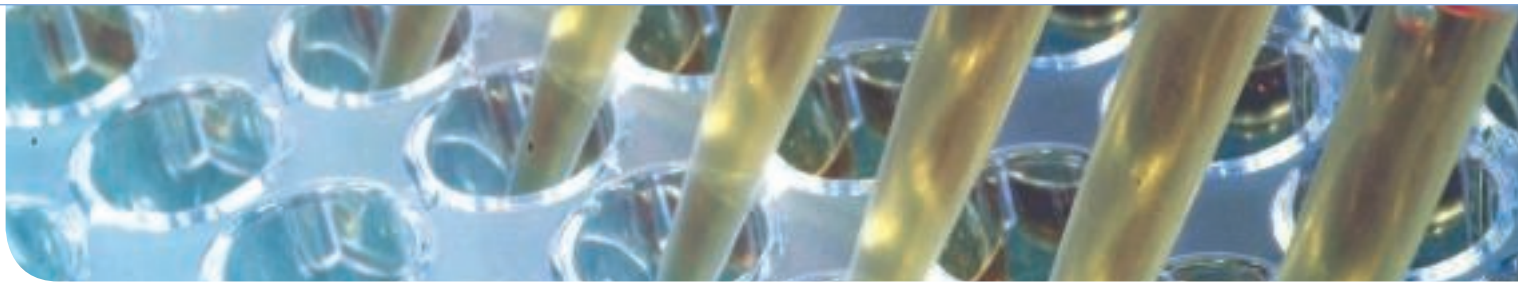
Antibiograms

An overview of antibiograms has been formulated for use in the treatment strategy of affected flocks, for the bacterial infections which play a role in the first week of life.

Underlying infections

In broiler flocks in particular, underlying infections regularly occur in the form of viral infections, and an occasional fungal infection. An average of 2.1 different infections were detected in the infected flocks. Although, histologically speaking, there was only very limited organ damage which might be attributed to these underlying viral or fungal infections, one certainly cannot ignore the possibility of a relationship between underlying infections and losses due to bacterial diseases. Further studies in which animal models are also applied, may provide added insight into this.

	Overview of flocks in Surveillance pilot: 'Losses in the first week of life'		
	Total	**Broilers**	**Rearing stock**
Flocks	30	22	8
Companies	22	18	6
Veterinary practices	10	8	3
Average age (days)	3.6 ± 2.0	4.0 ± 2.2	2.8 ± 1.0
Loss percentage in the first week of life	2.8 ± 2.2	2.7 ± 2.3	3.1 ± 2.2
Number of animals inspected	407	280	127
Number of pathogens detected per flock	2.1 ± 1.0	2.3 ± 1.0	1.5 ± 0.8
Number of flocks with bacterial infection	30	22	8
Number of flocks with virus infections	19	18	1
Number of flocks with fungal infections	1	1	0



Animal disease barometer Poultry 1st quarter 2015
(commercial poultry and non-commercial birds)

DISEASE	NUMBER OF OUTBREAKS REPORTED AND/OR INFECTIONS DETECTED	CALM	ALERT	CRITICAL
Notifiable diseases				
AI domestic	HPAI: not detected			X
	LPAI: Serological: antibodies against H5 and H6 (newly detected), antibodies against H5 and H9 (previously reported) PCR: H7N7 (2x)			X X
AI EU region	**HPAI:** H5N1 (Bulgaria and Romania), H5N8 (Hungary and Sweden)			X
	LPAI: H7N7 (United Kingdom and Germany)			X
NCD domestic	Not detected	X		
NCD EU region	Not detected	X		
Trends in zoonoses				
Chlamydia	Not detected by GD Animal Health in commercial poultry	X		
Erysipelas	Layers 1	X		
Trends in specific diseases				
M. gallisepticum[A]	Reproduction sector: 0	X		
	Rearing layers: 0	X		
	Layers - not vaccinated: 2 - vaccinated and infected: 2	 X X		
	Turkeys: 0	X		
M. synoviae[B]	Reproduction sector: 61		X	
	Rearing layers: 22		X	
	Layers: 156		X	
	Turkeys: 4	X		
Coryza (*Avibacterium paragallinarum*)	Not detected	X		
Gumboro (IBD)	Broilers: 6		X	
	Rearing layers: 1		X	
Infectious laryngotracheitis	Broiler breeders: 2	X		
Pasteurella multocida	5x detected at GD Animal Health, no reports to the NVWA	X		
Histomonas	Reproduction sector: 2		X	
	Layers 1		X	
	Turkeys: 0		X	
	Non-commercial birds: 1		X	

A Based on serological monitoring
B Based on serological monitoring and/or the differentiating M.s.-PCR

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