

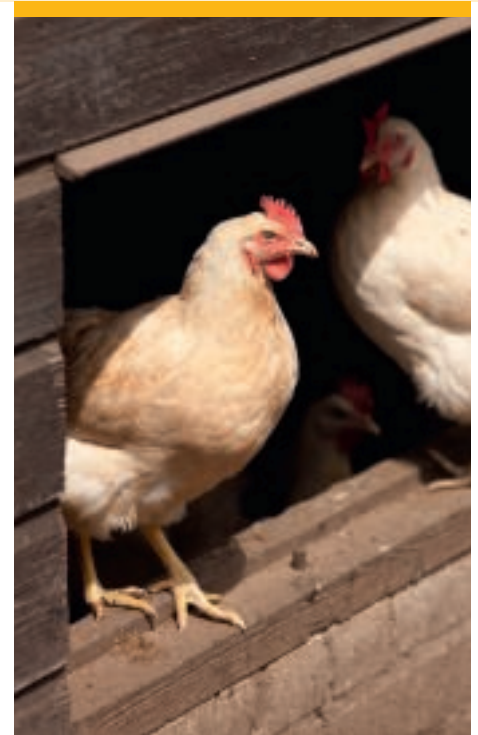


Low-pathogenic type H3N1 avian influenza in Belgium

In the first quarter, serious disease issues were detected in poultry in Belgium, infected with the low-pathogenic type H3N1 avian influenza (LPAI). These issues persisted at the time of publication. Due to the outbreaks being more serious than generally seen in LPAI infections, it was originally suspected that an extra pathogen may have been present alongside the LPAI virus. Considerable losses and a reduction in egg production was reported in some flocks, running up to 100 percent. However, the initial results of research by GD Animal Health, financed by AVINED, show that the H3N1 currently present in Belgium does not require any secondary pathogens in order to make hens seriously ill. The clinical condition, the post-mortem findings and the reduced production in (SPF – Specific Pathogen Free) layers in this research match the conditions apparent in the field.

When considering the intensive contact between the Belgian and Dutch poultry sectors, there are real concerns that we may

also be confronted with this virus in the Netherlands. Poultry farmers are advised to contact their vet as soon as they detect any problems in their poultry that might indicate an H3N1 infection, such as a decrease in egg production and hen losses. They are also advised to be extra alert to clinical symptoms if the poultry farm has had contact with the contaminated area, for example when animals have been recently imported from this area. Animals can also be submitted to GD Animal Health for pathological examination. For poultry necropsies, GD Animal Health takes the possibility of influenza into account if so prompted by the symptoms listed on the submission form or the pathological findings. If necessary, GD Animal Health will conduct appropriate follow-up tests. Very severe cases with considerable losses must by law be reported to the national government. No H3N1 has been detected at Dutch poultry farms so far. In order to minimise the risk of contamination in the future, we recommend taking additional, more stringent biosafety



measures, as would be taken in the event of high-pathogenic or low-pathogenic H5/H7 influenza outbreaks (in the Netherlands). Additional information can be found at: <https://www.gddiergezondheid.nl/diergezondheid/dierziekten/aviaire-influenza>.

Early Warning System

GD Animal Health has an Early Warning system (EWS) in place for poultry farms, to warn of outbreaks of *Salmonella Gallinarum* (SG) and *Salmonella Pullorum* (SP), *Mycoplasma gallisepticum* (Mg), Coryza, Gumboro and infectious laryngotracheitis (ILT). Such diseases can be reported by either the farm itself or GD Animal Health (positive test results). Based on clinical symptoms and additional diagnostics, GD Animal Health will consult with the vet and/or the poultry farmer to determine whether cases should be reported in the EWS. This concerns voluntary reports to GD Animal Health. It therefore does not provide an overview of all outbreaks.

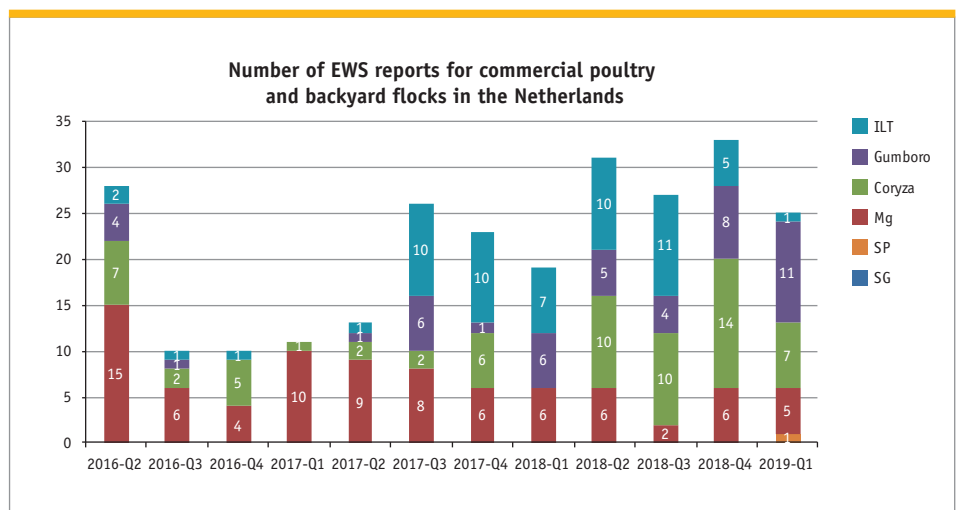


Figure 1. Number of EWS reports for SG/SP, Mg, Coryza, Gumboro and ILT in commercial poultry and non-commercial poultry in the Netherlands. (This concerns voluntary reports to GD Animal Health. It therefore does not provide an overview of all outbreaks of the diseases shown.)

Monitoring of IB strains in Dutch poultry

The graphs below show IB virus strains detected by GD Animal Health in broilers and layers at Dutch farms. GD Animal Health has already reported on a new IBV strain that has been regularly popping up among Dutch poultry since late 2017. This strain (D181) is genetically the closest to the D1466 strain and is apparently widely distributed in the Netherlands. Infections are mainly associated with increased losses and a reduction in egg production.

Clinical symptoms of D181

The D181 strain has been found in swab samples and necropsy cases from a number of Dutch poultry farms since late 2017. This mainly concerned laying and breeding farms. The new strain has now also been detected in samples from Germany and Belgium. The most common issues at the laying and breeding farms were production problems, increased losses and symptoms of coli-peritonitis. Upon checking the affected farms, it became apparent that most farms suffered not only

increased losses but also a reduction in egg production at the time of contamination, whereby the laying percentage often did not return to the previous level. Abnormalities in the eggs mainly concerned a lighter coloured eggshell, though this was not apparent in all flocks. Respiratory problems were rare. Experimentally infected hens in isolators at the GD animal facilities suffered a drop in egg production.

Serology and (cross) protection against D181

It is (as yet) unknown what effect a D181 infection has on the results of serological testing for various other IB serotypes. It is also unclear whether vaccination using existing vaccines will provide protective antibodies against D181. Further research at GD Animal Health will provide insight into the effect of a D181 infection on existing serological diagnostics. The current research is expected to give some insight that could help us think about which vaccine might be useful



against this new strain, while awaiting any more specific research. While the full results are not yet known, the initial impression is that D181 clearly deviates not only genetically but also serologically from D1466.



Robert Jan Molenaar
GD Animal Health poultry vet

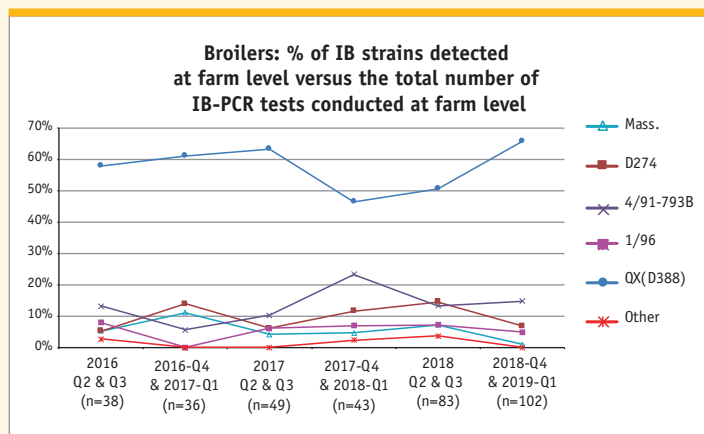


Figure 2. Overview of IBV strains detected by GD in broilers (at farm level), using PCR and subsequent sequencing.

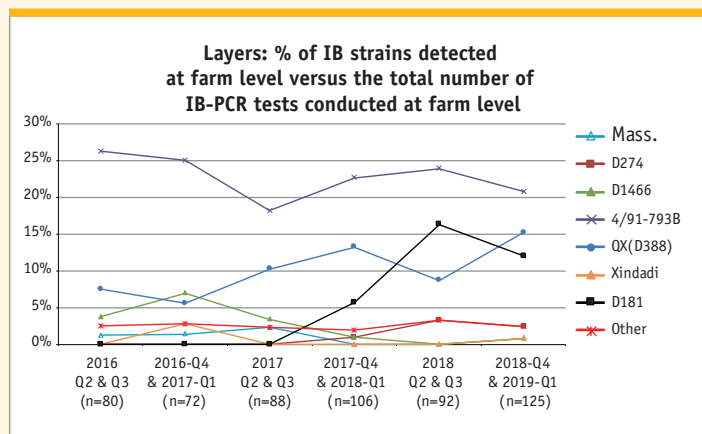


Figure 3. Overview of IB virus strains detected by GD Animal Health in layers (at farm level) Second quarter 2016 through first quarter 2019.

Poultry health in the Netherlands

VETERINARY DISEASES

SITUATION IN THE NETHERLANDS

Surveillance – Highlights First Quarter 2019 (numbers at farm level)

Article 15 diseases in poultry (compulsory notification and eradication)

Avian influenza in the Netherlands

(Source: GD Animal Health, WBVR, national government)

HPAI:

not detected

LPAI:

Serological: antibodies against various H types

PCR:

HxNx

Avian influenza in Europe

(Source: OIE)

HPAI:

Bulgaria (H5), Denmark (H5N6) and Russia (H5)

LPAI:

Denmark (H5 and H7)

ND in the Netherlands (Source: GD Animal Health, OIE)

Not detected

ND in Europe (Source: OIE)

Bulgaria

M. gallisepticum^A

(Source: GD Animal Health)

Serological monitoring by GD Animal Health:

Reproduction sector: 0

Rearing layers: 0

Layers:

- not vaccinated and infected: 0

- vaccinated and infected: 4

Turkeys: 0

Reports in EWS⁴ based on positive serology and/or voluntary PCR testing:

Layers: 5

M. synoviae^B

(Source: GD Animal Health)

Serological monitoring and/or dPCR by GD Animal Health:

Reproduction sector: 27

Rearing layers: 13

Layers: 150

Turkeys: 6

Salmonellosis (non-zoonotic salmonella):

(Source: GD Animal Health)

Salmonella arizonae

Not detected

Salmonella Gallinarum (SG)

Not detected

Salmonella Pullorum (SP)

1 case detected in backyard chickens

Article 100 diseases in poultry (compulsory notification)

Campylobacteriosis

No data available

Salmonellosis (zoonotic salmonella) (at flock level)

(Source: NVWA)

S. Enteritidis

Reproduction: 1 flock

Rearing layers: 0 flocks

Layers: 9 flocks

S. Typhimurium

Reproduction: 0 flocks

Rearing layers: 0 flocks

Layers: 0 flocks

Other types of salmonella

(S. Hadar, S. Infantis, S. Java, S. Virchow)

Reproduction: S. Infantis detected in 1 flock

Table continuation

VETERINARY DISEASES	SITUATION IN THE NETHERLANDS Surveillance – Highlights First Quarter 2019 (numbers at farm level)
Other OIE-list poultry diseases in the Netherlands subject to compulsory notification	
Avian chlamydia (Source: GD Animal Health)	Not detected by GD Animal Health
Gumboro (IBD) (Source: GD Animal Health; EWS)	Reported in EWS^C: Broilers: 11
Infectious bronchitis (IB) (Source: GD Animal Health)	Types most commonly detected by GD Animal Health: IB-D388 in broilers IB-4/91 in layers
Infectious laryngotracheitis (ILT) (Source: GD Animal Health; EWS)	Reported in EWS^C: Broilers: 1
Turkey Rhinotracheitis (TRT) (Source: GD Animal Health)	Detected by GD Animal Health: Layer breeders: 1 Broilers: 2
Other poultry diseases	
Coryza (<i>Avibacterium paragallinarum</i>) (Source: GD Animal Health; EWS)	Reported in EWS^C: Layers: 5 Backyard poultry: 2
Erysipelas (<i>Erysipelothrix rhusiopathiae</i>) (Source: GD Animal Health)	Detected by GD Animal Health: Layers: 2
<i>Pasteurella multocida</i> (Source: GD Animal Health)	Detected upon necropsy: - No reports to the NVWA
Histomonosis (Source: GD Animal Health)	Detected by GD Animal Health: Reproduction (meat sector): 5 Layers: 1 Turkeys: 1

A Based on serological monitoring

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

C Early Warning System



Animal health monitoring

Since 2002, GD has been responsible for animal health monitoring in the Netherlands, in close collaboration with the various livestock 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 GD Animal Health. 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.