



Ministry of Economic Affairs,
Agriculture and Innovation

Results Bluetongue monitoring 2009/2010

The Netherlands

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Overview

- Bovine, ovine & caprine population in the Netherlands
- Bluetongue in 2006/2007/2008
- Monitoring program 2009 & 2010
- Virological survey 2009
- Serological survey 2009 & 2010
- Results serological survey
- Samples tested for export & results
- Clinical suspicions 2009 & 2010
- Conclusion

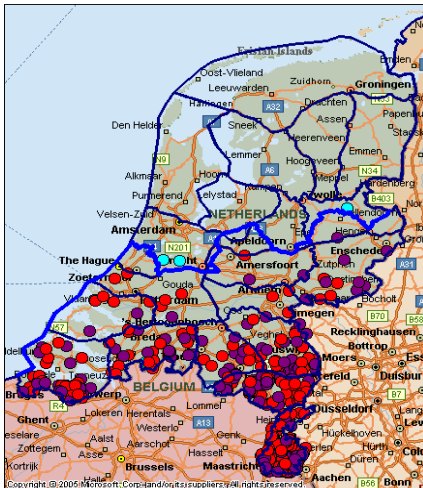


Bovine, ovine and caprine population in the Netherlands

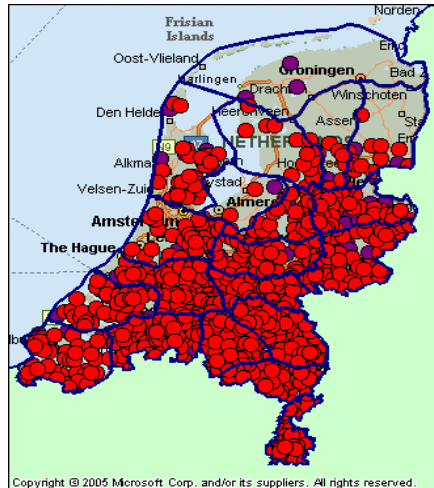
- Cattle total: 3,968,000
- Dairy cattle: 2,775,000
- Beef cattle: 1,193,000 (894,000 veal calves)
- Sheep total: 1,117,000
- Goat total: 374,000



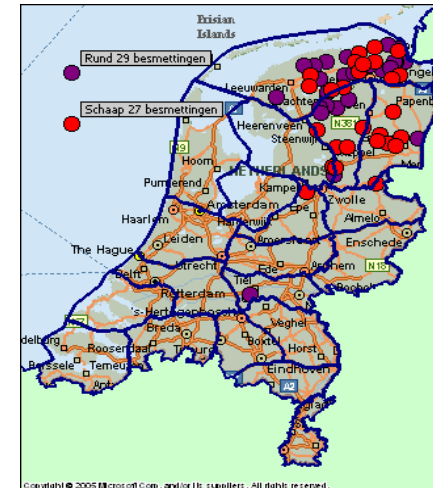
Bluetongue in 2006/2007/2008



2006:
456 infected
holdings



2007:
6018 infected
Holdings*



2008:
66 infected
holdings

2009: 12 Infections confirmed in the vector free season. Animals were infected in 2008

* For 2007: 5798 infected holdings registered in ADNS, discrepancy is under further investigation



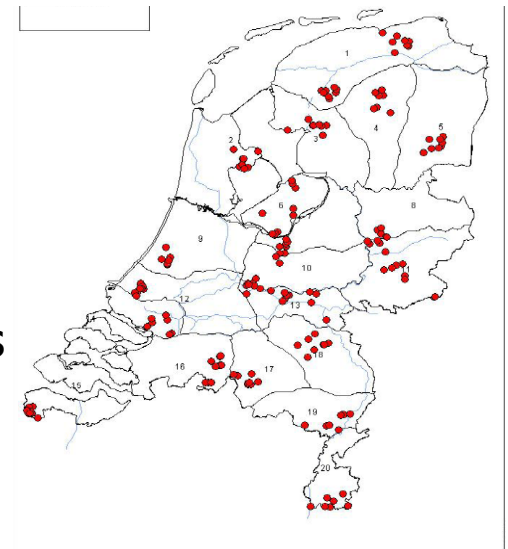
Monitoring program 2009/2010

- Virological survey 2009 mainly aimed at new BTV-serotypes
- Serological survey 2009 and 2010 aimed at possible free-status



Virological survey 2009

- Mainly aimed at other serotypes than BTV8
- No differentiation between vaccinated and non-vaccinated animals
- 13 November 2009 - 11 January 2010
- 21 compartments
- 15 EDTA-blood samples/compartment
- On average 7 holdings/compartment
- 346 samples (2 cattle/holding)
- Screening with PCR- test detecting all BTV-serotypes
- All samples were PCR negative
- With 95% confidence BTV-prevalence, other than BTV-8, in the Netherlands (on country level) was $< 2\%$





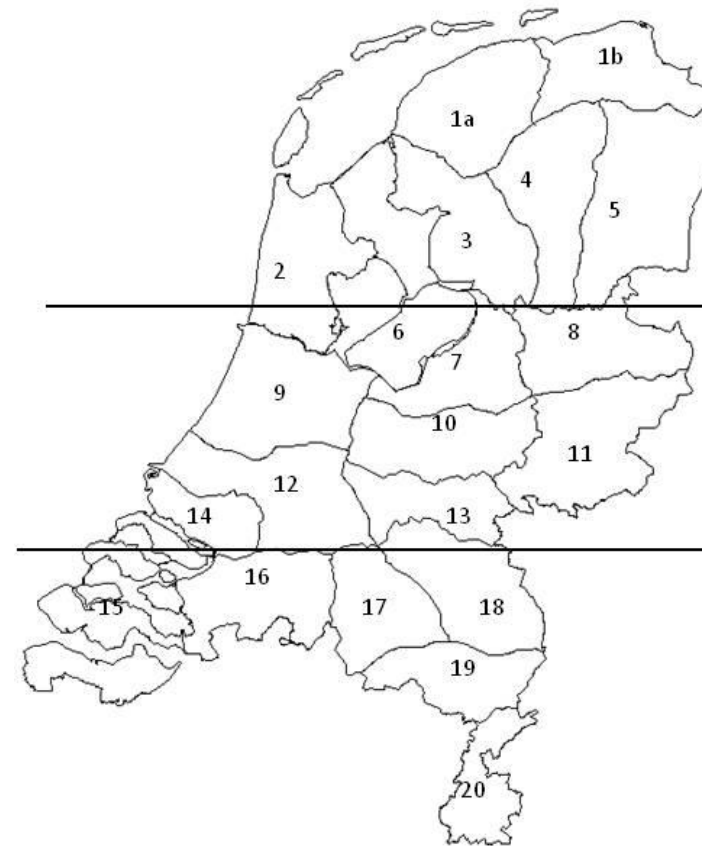
Serological survey 2009 & 2010 I

- Aimed at regaining free-status for BTV 8
- Only non-vaccinated animals included
- ELISA-test
- To evaluate virus circulation in 2009, heifers born in 2009 were selected
- To evaluate virus circulation in 2010, heifers born in 2010 or born in 2009 were selected
- Heifers tested were at least eight months old to avoid interference with maternal antibodies



Serological survey 2009 & 2010 II

- The Netherlands is divided in 20 compartments
- Compartment 1 divided into 2 sub-compartments because of large size
- Division into three regions:
north, central and south





Serological survey 2009 & 2010 III

Goal of the study

Proof absence of BTV circulation in vaccinated population

For 2009:

- on national level: $\leq 2\%$ with 95% confidence
- on regional level: $\leq 2\%$ with 95% confidence
- on compartment level: $\leq 10\%$ with 95% confidence

For 2010:

on national, regional & compartment level: $\leq 2\%$ with 95% confidence



Serological survey 2009 & 2010 IV

Sampling scheme

All sampling took place in 2010 and 2011

July - September 2010:

- 883 heifers born between 1 December 2008 and 1 July 2009

November 2010 - February 2011:

- 438 heifers born between 1 December 2008 and 1 July 2009
- 881 heifers born in the second half of 2009
- 1,946 heifers born in the first half of 2010

1,321 animals representative for 2009

3,265 animals representative for 2010



Tests used

- Samples are first tested by the Animal Health Service with a competitive ELISA test (Pourquier, Montpellier, France)
- Positive samples are sent to the *National reference lab* CVI-Lelystad for confirmation with the ID.VET ELISA test





Results serological survey for 2009

1,321 heifers sampled, born between 1 Dec. 2008 and 1 July 2009

- 5 samples dubious and 3 samples positive
- At confirmation at CVI-Lelystad all 8 samples tested negative

Max. possible prevalence

- on national level: **$\leq 0.22\%$** with 95% confidence
- on regional level: **$\leq 0.77\%$** with 95% confidence
- on compartment level: **$\leq 9.8\%$** (3,2 – 9.8%) with 95% confidence



Results serological survey for 2010

3.265 heifers sampled, born between 1 Dec. 2008 and 1 July 2010

- 10 samples dubious and 5 samples positive
- All 15 samples negative at confirmation at CVI

Max. possible prevalence

- on national level: **$\leq 0.09\%$** with 95% confidence
- on regional level: **$\leq 0.33\%$** with 95% confidence
- on compartment level: **$\leq 2.00\%$** with 95% confidence



Samples tested for export

- PCR-tests
- Approximately 30 000 samples tested on annual basis
- Mostly vaccinated animals
- All samples tested PCR-negative





Clinical suspicions

- 2009: 122
- 2010: 45

- All suspicions in 2009 and 2010 were tested PCR-negative for BTV
- Samples from clinical suspicions are tested with an ELISA test and a PCR-test



Conclusion

- In 2009 all compartments of the Netherlands were free from BTV circulation at the threshold prevalence of 10% with 95% confidence
- In 2010 all compartments of the Netherlands were free from BTV circulation at the threshold prevalence of 2% with 95% confidence
- **The Netherlands may request the free status for bluetongue. Information on the date will follow**