



Norwegian Food Safety Authority



# BTV-8 in Norway

Aim: Declaration of freedom from  
Bluetongue

SCOFCAH, 4<sup>th</sup> April 2011

## BTV-8 – the outbreak in Norway

- Bluetongue virus serotype 8 was confirmed in 4 cattle herds in February/March 2009.
- No clinical signs.

2007	2008	2009	2010
0	0	← 4	0

Vector activity: 2008: april – 07.11.

2009: 24.04. – 20.11.

2010: 20.05. – 22.11.

The most probable time for infection of the herds is estimated to be between August and October 2008.

**The first two positive herds were found in the surveillance program for bluetongue in 2008.**

**(samples collected in December 2008 and analyzed in February 2009)**

	<b>Dairy cows Bulk milk</b>			<b>Beef cows Blood samples</b>		
	<b>Number tested</b>		<b>Positive</b>	<b>Number tested</b>		<b>Positive</b>
<b>Region</b>	<b>Samples</b>	<b>Herds</b>	<b>Herds</b>	<b>Samples</b>	<b>Herds</b>	<b>Herds</b>
southeast	561	547	0	85	10	0
southwest	229	229	2	174	22	0
Total	790	776	2	259	30	0

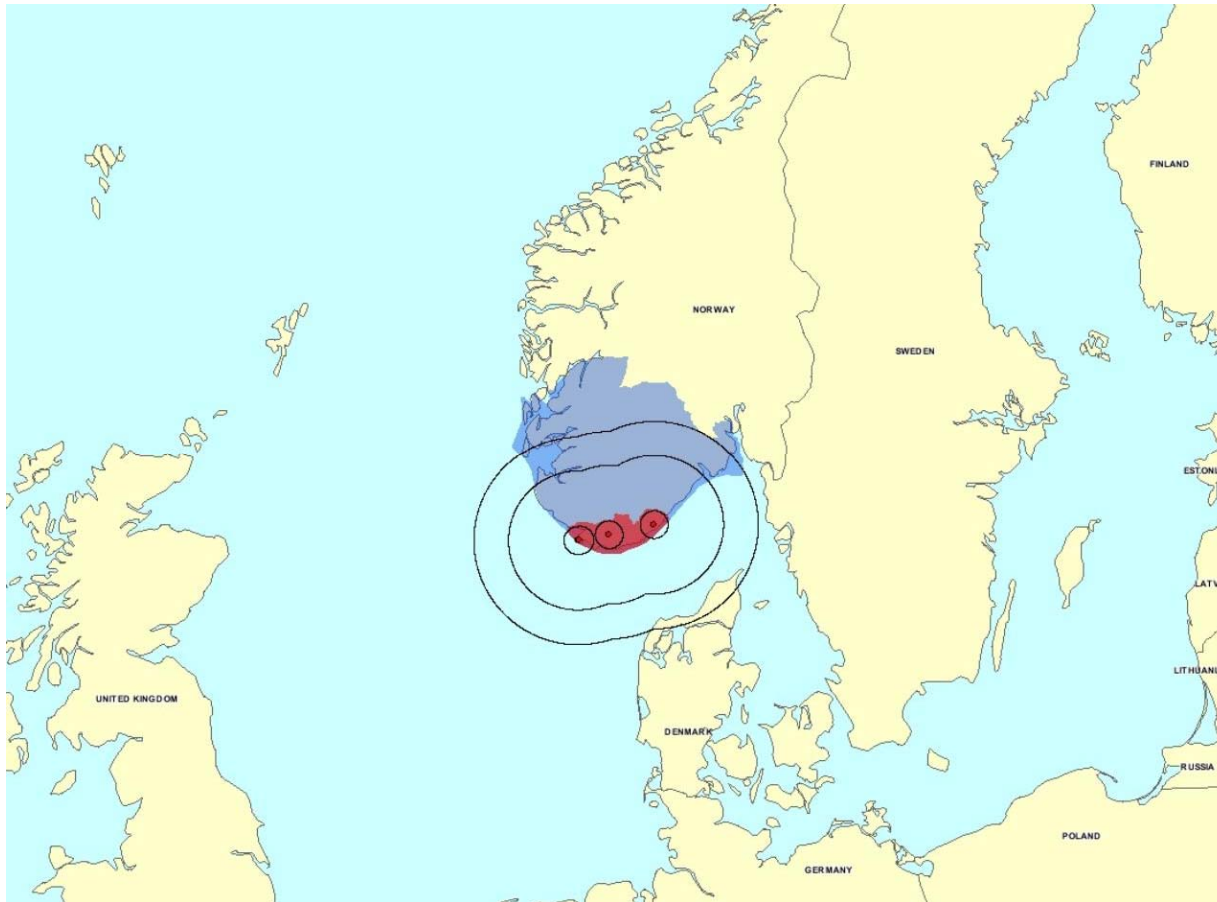
## Investigation after the outbreak – two more herds were found positive

### Monitoring in February – April 2009

<b>Zones</b>	<b>Category of samples</b>	<b>Tested herds</b>	<b>Tested samples</b>
20 km zone - all herds	<b>Bulk milk</b>	252	258
”	<b>Blood, beef cattle</b>	247	4289
”	<b>Blood, small ruminants</b>	420	8088
Total 20 km zone		919	12635
Protection (100 km)		1405	3678
Surveillance (50 km)		426	543
Free zone		1595	1900
Total		4345	18756

# Restricted zones

Vaccination against BTV has not been carried out in Norway



Due to the control policy and the need of sheep farmers to utilize mountain pastures during the vector active season, the surveillance zone was further extended to cover relevant mountain pasture areas.

## Bluetongue surveillance in 2009

Category	No of herds tested	Total No of herds
Bulk milk in the restricted zone	2545 (99 %)	2572
Bulk milk in counties in the free zone close to the restricted area	1578 (99 %)	1599
Beef cattle in the restricted zone	288 (16 %)	1816
Beef cattle in counties in the free zone close to the restricted area	222 (23 %)	973
Sheep in the restricted zone	16 (0,5%)	3466
Wild cervids – 287 animals		

The number of samples have been sufficient to detect a 2% prevalence of BTV 8 in the ruminant population with 95% confidence.

# Bluetongue surveillance in 2010

Category	No of herds tested	Total No of herds
Bulk milk in the restricted zone	2348 (93 %)	2530
Bulk milk in counties in the free zone close to the restricted area	1471 (92 %)	1606
Beef cattle in the restricted zone	455 (26 %)	1768
Beef cattle in counties in the free zone close to the restricted area	106 (11 %)	973
Sheep in the restricted zone	48 (1.4 %)	3466

## All results are negative

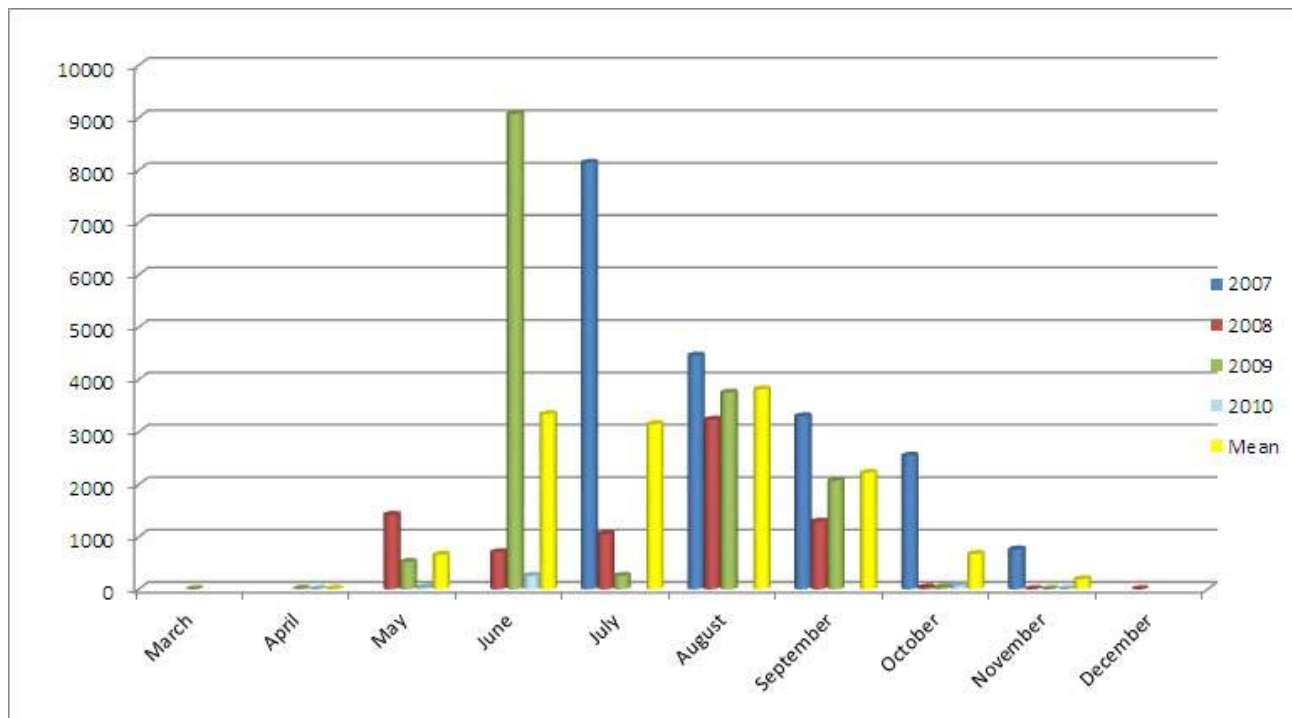
The number of samples have been sufficient to detect a 2% prevalence of BTV 8 in the ruminant population with 95% confidence.

## 2010 – probably a new orbivirus in goats

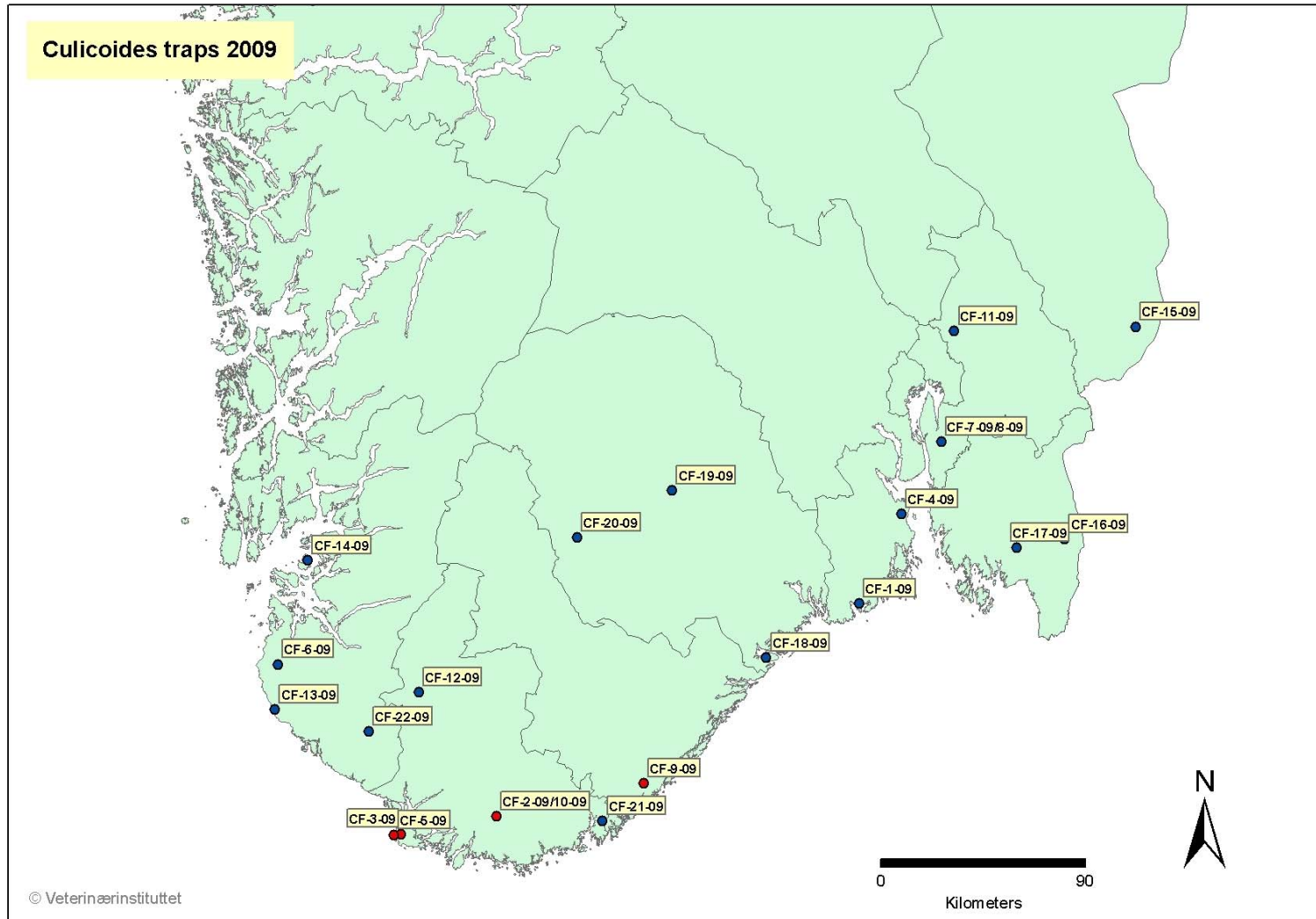
- In December 2010 bulk milk samples from eight dairy goat herds in the free zone were tested for antibodies against BTV
- Six bulk milk samples became positive. Blood samples from individual goats showed that 5 herds were false positive.
- In one herd more than 60 % of the goats had antibodies against BTV. None of the goats were positive for virus detection by PCR.
- New blood samples from 15 young goats (born in 2010) and from 5 adults were sent to The Bluetongue Reference Laboratory in Pirbright.
  - All the samples from the young goats tested positive for a special PCR assay called “Orru”.
  - The five adult goats were seropositive and PCR-negative.
  - In the serum neutralization test, the antibodies were negative for all the 24 known serotypes of BTV. “Toggenburg” and ”Kuwait” have also been excluded.
- There have been no clinical signs
- Probably a new orbivirus in goats, similar to the “Toggenburg” virus
- This incident is subjected to further investigation

# Culicoides surveillance

Average number of Culicoides captured per trap per month in the years 2007 to 2010



# BT-vector surveillance. Localization of traps in Norway 2009.



# Measures taken to control the disease

- Restrictions on movement of animals.
- Monitoring, surveillance and vector monitoring (vector active periods defined through vector monitoring).
- Culling of risk animals in infected herds (pregnant, seropositive cows calving before June 1st 2009) and viremic offspring.
- All imported ruminants are tested. General advice not to import animals from affected areas.
- Information campaigns aimed at importers, animal keepers and veterinarians.

---

# Conclusion

---

Serological and entomological monitoring and surveillance programs, according to Regulation (EC) No 1266/2007, have been carried out during the last three years.

The results from the monitoring and surveillance programs carried out in 2009 and 2010 demonstrate the absence of BTV-8 circulation in Norway during the last two vector seasons.