Food and Farming Group
International Animal Health
International Disease Monitoring Preliminary Outbreak Assessment

Ref: VITT 1200/BT – Germany
Date: 04 April 2007

Bluetongue in a sentinel animal in Germany

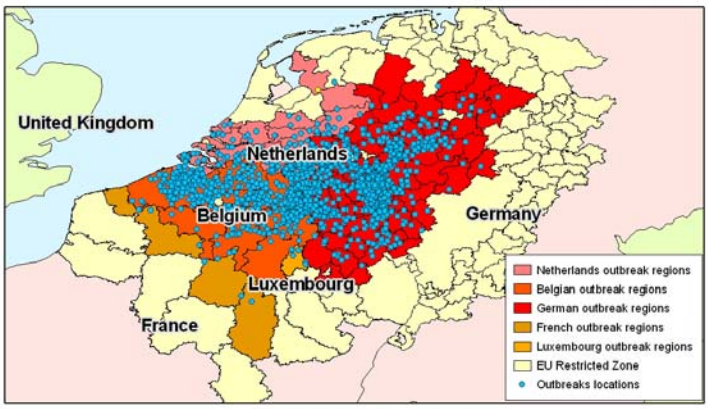
Note: *Defra's International Animal Health Division (IAHD) monitors outbreaks of high impact diseases around the world. Bluetongue (BT) is among those diseases of major concern.*

1 Disease Report

On 30 March 2007, the German veterinary authorities reported that BT virus was detected in a sentinel bovine animal in Landkreis Osnabrück (Lower Saxony). On this basis, Germany suspended the vector free period (European Commission, 2007). The infected premises with sentinel cattle appears to be within the previously established restricted area. Following the findings in Germany and results of their trapping programme, the Netherlands and Belgium also announced the end of vector free period European Commission, 2007a). This is an evolving situation.

2 Situation assessment

Just over 2100 outbreaks (clinical cases) of BTV-8 have been reported in the affected EU Member States since mid 2006. While the number of reported cases have significantly declined at the end of 2006, there have been a few new serological and virus positive cases reported from the beginning to mid-January 2007 onwards (see cumulative map of reported outbreaks since mid 2006).



Bluetongue outbreaks in the Netherlands, Belgium, Germany and France 17 August - 22 March 2007

Note: The restricted zones shown include some areas not actually under restriction.

Although the epidemiological evidence in the affected EU Member States is still being analysed, this most recent finding in Germany may suggest that the virus has managed to 'overwinter'. However, it still remains uncertain how widespread the virus may be in the affected areas either in susceptible animals or biological vectors.

The likelihood that a susceptible animal will become infected with BTV depends on many factors: the competence of the vector, the rate of infection of the competent vectors and their biting rates and the susceptibility of the host. There would be a few other factors that may contribute to the maintenance and spread of the virus. Apart from viraemia, one is the use of unhygienic veterinary interventions (e.g. surgery, hypodermic needles) in domestic livestock and another is the presence and the maintenance of the virus in wild susceptible animals. It still remains uncertain whether any investigations on susceptible wild and zoo animals in the affected areas have been carried out.

The role of ectoparasites in the mechanical transmission of BTV is unclear. The virus has also been detected in some ectoparasites of ruminant wildlife that may be common to

domestic ruminants. However, it is unknown to what extent their role may be important in the epidemiology of BTV-8 in the affected EU Member States. While they may potentially play a role in limited local mechanical transmission, their role as potential biological vector is unknown.

The likelihood that a vector will become infected by feeding on an infected animal and be able to transmit the virus will depend upon the quantity of the virus in the blood of the host animal, the conditions for virus propagation in the vector (i.e. temperature), the competence of the vector population and the survival rate of the vectors.

Within the next few weeks populations of competent biological vectors are expected to rise. In this case, further sporadic cases of BTV-8 may be expected to occur in mid spring, probably leading to more cases by the end of spring and beginning of summer. The expected peak tends to occur in late summer and in autumn.

Under EU rules, legal trade in susceptible livestock can take place from the areas of the currently affected EU Member States that are allowed to trade.

3 Conclusions

The BTV-8 developments in the EU are of significant epidemiological importance. They have highlighted that environmental conditions in north-west Europe may exist to favour establishment of any BTV type infection. On the basis of emerging epidemiological evidence and dynamic situation in the affected EU Member States:

a) There is a low but increased likelihood that BTV-8 virus may be present in the currently affected areas in the EU at the beginning of spring. This is likely to coincide with the time when the population of competent biological vectors is expected to rise. Should this be the case, sporadic cases of BTV-8 may be expected to occur in mid spring, probably leading to more cases by the end of spring and beginning of summer. A peak in outbreaks of BTV tends to occur in late summer but with a pool of infected animals that may be present in spring and early summer, the dynamics of an outbreak of bluetongue could be difficult to predict.

b) The current developments still present a low but increased likelihood of the introduction of BTV-8 virus to the UK from the currently affected areas.

The likelihood of the introduction of the virus by legal trade in susceptible livestock from areas of the currently affected EU Member States that are allowed to trade would be low. This highlights importance of the continuing post-import testing.

The likelihood of windborne transmission of infected biological insect vectors would increase if new cases continue to be detected in susceptible animals, particularly on the western coast of some of the affected EU Member States. This highlights the importance of maintaining enhanced vigilance for even mild clinical signs indicative of bluetongue in areas identified as at risk on the basis of meteorological monitoring and monitoring of vectors in these areas.

Reference:

European Commission, (2007). Bluetongue – end of vector free period. Urgent fax 140, Brussels, D1 BVG (07) D/410833, Directorate D – Animal Health and Welfare, 30 March 2007.

European Commission, (2007a). Bluetongue – end of vector free period in the Netherlands and Belgium. Urgent fax 141, Brussels, D1 BVG (07) D/410854, Directorate D – Animal Health and Welfare, 2 April 2007.