Update on Bluetongue serotypes in the European Union: BTV-1, BTV-6, BTV-8 and BTV16

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

1 Disease Reports

Official sources have reported the following outbreaks of bluetongue:

1.1 BTV-1

Portugal reported an outbreak of BTV-1 in sheep in Vila Real in northern Portugal, close to the Spanish border. The whole country has been declared a BTV-1 restriction zone and vaccination will start soon. France declared a BTV-1 outbreak in cattle in Finistere, northern France, resulting in a new BTV-1 restriction zone outside that already existing in South West France. Two outbreaks of suspected BTV-1 have been detected in the Netherlands in cattle imported from France. Other BTV-1 levels reported at recent SCoFCAH meeting (11 November) are France (3,597), Portugal (37); Spain (1,918)

1.2 BTV-6

Germany reported three outbreaks of vaccine strain-type BTV-6 in four cattle in Niedersachsen. Cattle were detected during surveillance being carried out in response to movement controls due to the Dutch outbreaks (see map 1). Netherlands has now reported two further outbreaks of BTV-6 within the 1 km surveillance zones in place for the first outbreaks and three more outbreaks were detected outside the containment zone. Most of the country is now a BTV-6 containment zone (see map 1).
1.3 **BTV-8**

Austria reported the first case of **BTV-8** in cattle in Oberosterreich, detected during routine surveillance (see map 2). Spain reported five outbreaks of **BTV-8** in Cartama region, southern Spain. Other BTV-8 levels reported at the recent SCoFCAH meeting (11 November) are Belgium (21); Czech Republic (19); Denmark (14); France (22,975); Germany (2,210); Luxembourg (19); Netherlands (55); Spain (12); Sweden (26).

1.4 **BTV-16**

Greece has reported the first outbreak of **BTV-16** this year in the EU, in sheep on the island of Lesbos in the Eastern Mediterranean (see map 3). Epidemiological investigations are underway.

2 **Situation assessment**

Across Europe restriction zones have been increasing in area as several new outbreaks of different serotypes are reported (see map 4). In certain parts of northern Europe, the vector season would be coming to a close as cold weather approaches. Several countries are planning wide scale vaccination programmes over the winter.

The geographical range of **BTV-1** has expanded into northern France, northern Portugal and two suspected outbreaks have been reported in the Netherlands in imported cattle. The animals were moved from France via a farm in Belgium to the Netherlands. Portugal has reported an outbreak of **BTV-1** in the north of the country, which again could be due to vector movement south from Spain, where several outbreaks of **BTV-1** have been reported. The north of the country is now a restriction zone for **BTV-1**. The restriction zone for **BTV1 & 4** remains in place in the southern half of the country.

The emergence of a vaccine strain-like **BTV-6** in the Netherlands has caused concern (for more information see [http://www.defra.gov.uk/animalh/diseases/monitoring/poa.htm](http://www.defra.gov.uk/animalh/diseases/monitoring/poa.htm)). It has since been reported in Germany and other parts of the Netherlands. Most of the Netherlands and part of Germany is now a **BTV-6/BTV-8** containment zone.
The recent European Commission Community Veterinary Emergency Team (CVET) has reported on desktop investigations into the BTV-6 outbreaks carried out between 4 and 7 November (SCoFCAH, 2008). The BTV-6 strain confirmed in NL is 99.9% identical to part of the live vaccine strain known to be used in South Africa as part of a pentavalent vaccine. It is highly unlikely that the strain was introduced through legal trade. It is not possible to determine at this time if the virus was introduced by illegal trade.

The Community Emergency Veterinary Team also carried out a preliminary epidemiological study which found that it was most likely to be a vaccine strain for the time being, and that it is not possible to determine whether the virus was first introduced in Netherlands or Germany. The information available also suggests that the virus is disseminated over a relatively large area but at an apparently low level. With regard to clinical signs, whilst it is able to produce clinical signs in cattle no signs in sheep have been observed.

The report concludes that there would be no further benefit from random surveillance. Testing has comprehensively covered the area. The information analysed also suggests that control measures have been adequate and proportionate, these are subject to on-going and collaborative review.

The report also considers potential for spread and suggests it is difficult to ascertain whether BTV-6 will follow the pattern of BTV-8.

The geographical range of BTV-8 has expanded eastwards into Austria, which is not entirely unexpected given the proximity of the outbreak to the German border where there have been several hundred outbreaks this year. Austria had already started a vaccination campaign in Tirol and Voralberg regions to the west. The first outbreaks of BTV-8 have also been reported in southern Spain, an area previously affected by BT1 and BTV-4, with vaccination campaigns for both serotypes. The reason for this latest outbreak is unknown, but is possibly vector movement or movement of infected animals from the north. Hence the entire country is now a restriction zone for either BTV1 & 8 or BTV1, 4 & 8.

The European Commission (CION) has proposed that Bluetongue protection zones in the future will be differentiated. A “red zone” will be where virus circulation is occurring. A preventative vaccination or “blue zone” will be where there is no virus circulation with
vaccination. Demarcation will depend upon sufficient, proportionate surveillance. Exact details are yet to be finalised.

3 Conclusions

In the last fortnight, the bluetongue situation in the European Union has been gradually evolving. New outbreaks of BTV-1 in northern Portugal, Netherlands and Northern France have been reported. Vaccine strain-like BTV-6 has been detected in Germany as well as further outbreaks of the same strain in the Netherlands. Outbreaks of BTV-8 have occurred in Austria and southern Spain for the first time. BTV-16 has been reported for the first time this year in Greece. Restriction Zones have been expanded in many countries, including the UK, to allow vaccination to take place.

Epidemiological investigations into the Dutch and German BTV-6 outbreaks are still continuing. We will report on the conclusions of these as more details come to light.

While expansion of other bluetongue serotypes has been observed, it is encouraging that a combination of mandatory vaccination and immunity due to previous infection appears to have greatly reduced the number of infected animals in some countries in North West Europe.

With the winter approaching, the vector season is expected to come to an end in some EU MSs. Several MSs are planning to concentrate on vaccination during the vector free period to protect animals for next season.

We continue to monitor and review developments.

4 References