U.E.C.B.V.
Union Européenne du Commerce du Bétail et de la Viande
SIEGE SOCIAL: STRASBOURG - BOURSE DU COMMERCE

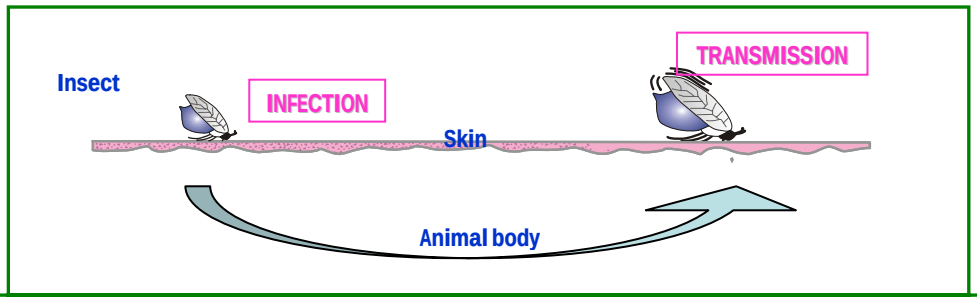
Brussels, 31 August 2006

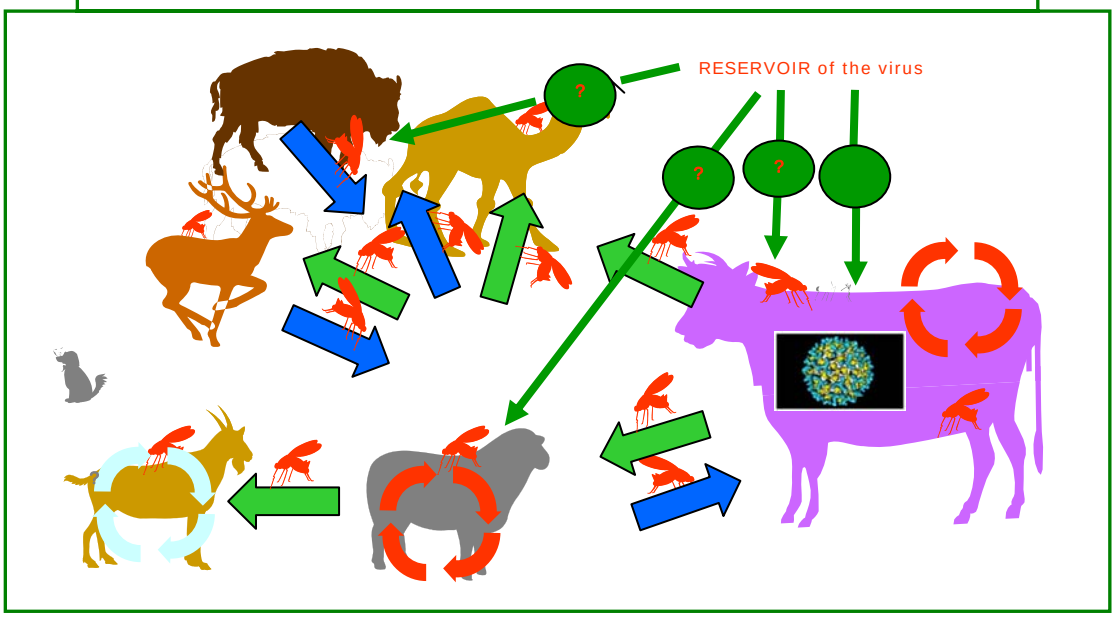
O/Ref: Note **N-065-2006-EN**

RE: Bluetongue – general overview on some aspects of the disease

Agent of the disease and epidemiological aspects

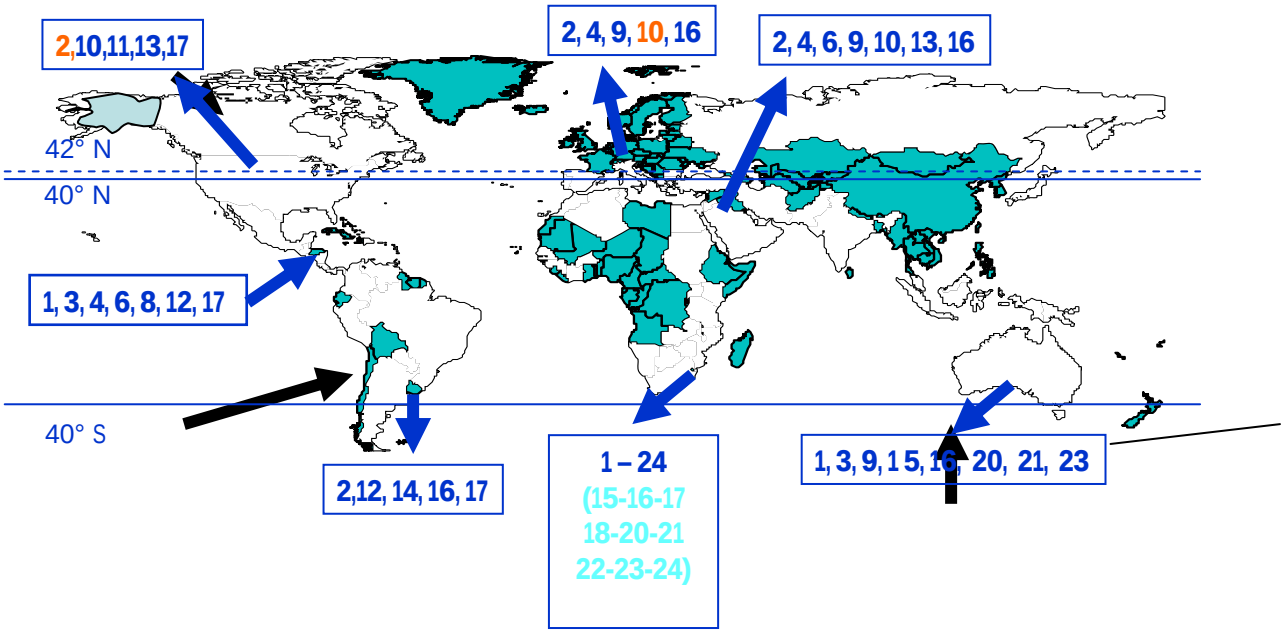
- Viral disease affecting domestic and wild ruminants
- Transmissible through insects picking the virus from an animal and carrying it to another one
- Non-contagious: it means that without the presence of the vector the virus cannot be transmitted from one animal to another (apart from possible transmission through syringes and needles if used on more animals). The only possibility of direct transmission between animals which has been hypothesized is represented by the semen (but it is a highly controversial issue between experts and in any case a very rare event).
- No transmission to humans, neither through vectors nor through food.
- Once infected, ovine and caprine animals can normally be infective for 14-30 days (up to 55 days in some cases, while bovine animals can be infective for longer periods (60 days up to 100 days in some cases).
- The long persistence of the virus in cattle's blood, together with the fact that cattle do not normally show symptoms, explains the importance of the role of cattle in spreading the disease.





- Virus: 24 different serotypes of virus are described up to date. Serotypes have different geographical distribution and can have different implication on the severity of the disease.

WORLD



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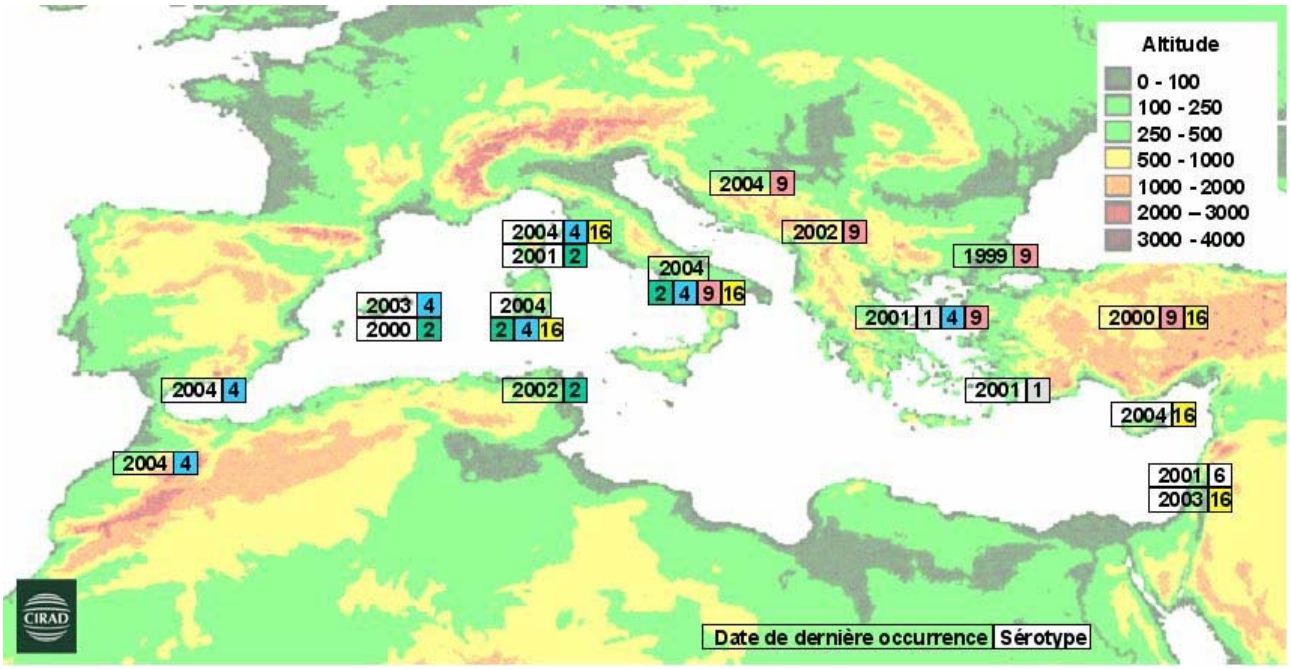
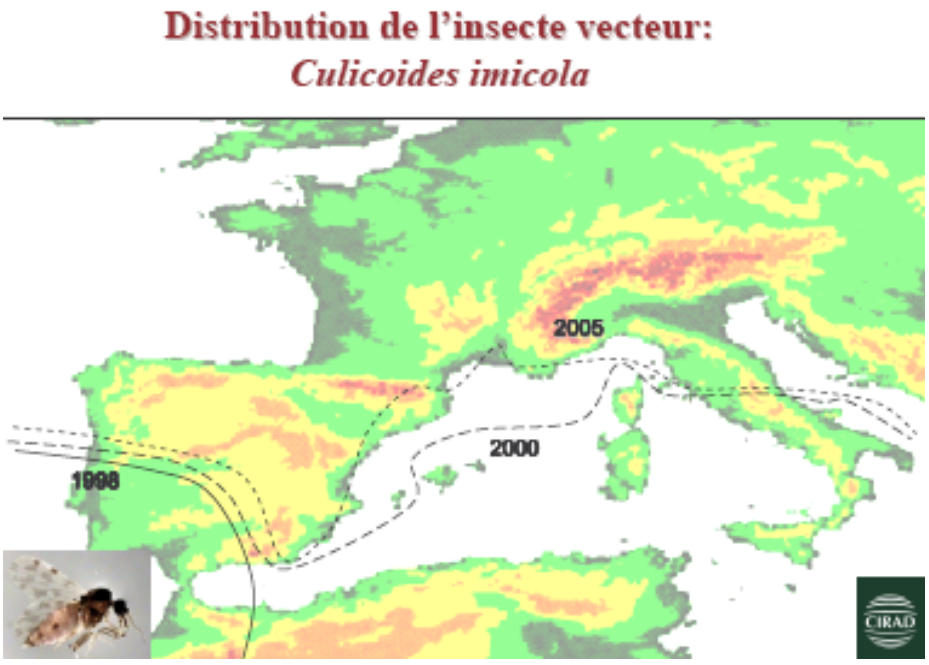


The vector

Some characteristics of the insect vector of the disease:

- it can belong to several species of the genus *Culicoides* (the most spread in Europe is *C. imicola*) link to the list of recognised vectors and their distribution;
- up to 11 reproductive cycles per year;
- they bite animals every 4-5 days and are infectious for 10 days after biting;
- active from sunset to dawn;
- normally active when average day temperature is over 12°C;
- under such temperature the insect can survive; it can possibly surviving when the temperatures goes down to -1°C only for a few hours per day;
- if the insect survives during the winter, it can spread the disease the following year;
- active movements of the insect are limited within a few hundred meter, but it can be passively transported by the wind (it seems that in some cases it has been able to cover a distance of several hundreds km);
- the maximum density of the insect population is end of summer / beginning autumn (which is when infections are most frequent).



Clinical signs in infected animals

The disease is characterised by inflammation of the mucous membranes, congestion, swelling and haemorrhages. The severity of the disease can depend on the serotype, the species affected, the breed, the previous presence of the disease in the zone (in endemic areas the signs can be milder).

Sheep is normally the most susceptible species, with severe clinical signs, while cattle and goats often show less severe or no signs. Generally the period of time from the infection to the clinical signs is of 4-14 days.

Sheep

Main signs: skin: hyperaemia and haemorrhage
head: oedema, haemorrhagic and erosive/necrotic lesions, cyanosis (especially at the level of the tongue
feet: hyperaemia and haemorrhage, laminitis
muscles: haemorrhage and necrosis (→ symptoms with a delay of 2-3 weeks with pain and difficulty in movements)
pregnant animals: abortions and lesions of the foetus

Mortality rate: 1-30% (from 2 to 5 weeks after the infection).

Cattle

Main signs: often no signs or mild signs (fever, stiffness or lameness, increased respiratory rate, increased salivation and lacrimation, skin of the muzzle inflamed, lips and tongue swollen, ulcers on the oral mucosa, the skin of the neck, flanks, perineum, and teats may be affected).
pregnant animals: often unique sign of the disease
abortion or loss of the foetus in the first period of the pregnancy (normally no lesions during the last 3 months of pregnancy)

Link to a presentation with several pictures of clinical signs

Role of the vaccination

- To decrease the viral circulation
- To decrease or nullify clinical signs in animals
- To allow movements to the free zones after a certain delay without need of sampling
- (on the long term) Eradication of the disease

Economic Importance and impact

“Bluetongue can be a costly infection for several reasons. The clinical disease in sheep can be severe, resulting in deaths, weight loss and wool break. In some countries where disease is endemic (South Africa and some States of the USA), vaccination is a recurring cost. However the greater cost of bluetongue is to infected countries which export live animals, germplasm and some animal products such as foetal calf serum. Here the presence of bluetongue virus, even if wholly subclinical, causes loss of trade due to restrictions on the source of animals, and the costs of health testing. It has been estimated that in the late 1970s, the ban on US cattle semen exports resulted in an annual loss of $24 million (Gibbs and Greiner, 1988).”
(Source: FAO)

Data on recent outbreaks in northern Europe (august 2006)

Belgium (updated to 30 August)
- serotype 8 involved
- outbreaks confirmed: 56 (45 in cattle and 11 in sheep)
- outbreaks suspected: 27 (14 in attle and 13 in sheep)
- link to the detailed presentation during the Standing Committee on 28 August

Netherlands (updated to 28 August)
- serotype 8 involved
- outbreaks confirmed: 28 (7 in cattle, 19 in sheep, 2 in sheep/cattle)
- outbreaks suspected: 1 (sheep)
- link to the detailed presentation during the Standing Committee on 28 August

Germany (updated to 28 August)
- serotype 8 involved
- outbreaks confirmed: 20 (17 in cattle, 3 in sheep)
- outbreaks suspected: 13 (11 in cattle, 1 in sheep/goats, 1 in sheep/cattle)
- link to the detailed presentation during the Standing Committee on 28 August

France (updated to 31 August)
- serotype 8 involved
- outbreaks confirmed: 2 (cattle)

Data on past outbreaks in Europe

Italy
- serotypes 2-4-9-16 involved
- season 2000/2001: 6.869 outbreaks – 48.110 dead animals – 230.442 culled animals
- season 2001/2002: 6.807 outbreaks – 72.973 dead animals – 170.429 culled animals
- season 2002/2003: 432 outbreaks – 2978 dead animals – 305 culled animals
- season 2003/2004: 3.709 outbreaks – 73.446 dead animals – 2.389 culled animals
- season 2004/2005: 127 outbreaks – 710 dead animals – 0 culled animals
- season 2005/2006: no outbreaks
- surveillance and vaccination carried out

Portugal
- serotype 4 involved
- a total of 9 outbreaks were reported at the end of 2004 in the south-east of the country, near to the border with Spain
- no outbreaks since December 2004
- surveillance and vaccination being carried out in 2005/2006

Spain
- serotype 4 involved
- 2004: 328 outbreaks (south-west of the country: Andalucia, Extremadura, Ceuta)
- 2005: 82 outbreaks (south and west of the country: Andalucia, Extremadura, Ceuta, Castilla La Mancha, Castilla y Leon, Madrid)
- 2006: no outbreaks reported yet
- surveillance and vaccination carried out (vaccination of all the ruminant population within the restricted zone
- the restricted zone has been recently extended (June 2006) not because of new outbreaks but because of vaccination of animals being carried out

Corse (France)
- serotype 2-4-16 involved
- 2004: 21 outbreaks
- 2005: 6 outbreaks