



FAWC, 1A Page Street, London SW1P 4PQ  
Tel: 020 7904 6534 Fax: 020 7904 6993

13 June 2007

## **The effect on welfare of livestock should Blue Tongue disease become established in the UK**

Thank you for your request for advice on the effect on welfare of livestock should Blue Tongue disease become established in the UK. This matter has been considered by the Ruminants Standing Committee.

### **Introduction**

Blue Tongue (BT) is a viral disease of both domestic and wild ruminants and camelids. It is infectious, but non-contagious and is spread by an arthropod vector, the midge *Culicoides imicola* (although other species of *Culicoides* are also implicated).

It can be a devastating disease in sheep. An outbreak of BT in Spain has been reported where 179,000 sheep died in four months. Infection in cattle and other ruminants is often mild or goes un-noticed, but they act as reservoirs of infection.

The disease is most commonly seen from mid-summer to early autumn when the midges are most active, although it is suggested that the disease is now being seen in the late winter / early summer due to changes in midge activity.

### **Clinical Signs**

These may be mild to severe within the same flock or herd. BT infection in cattle tends to be mild with few individuals showing clinical signs.

The clinical signs are high body temperature; excess salivation (foamy – no drooling); nasal discharge with encrustations of the muzzle; inflammation and necrosis of the oral mucosa, oedema of the tongue, swelling and cracking of the coronary band leading to lameness; congestion and scab formation on the teats. Some cattle show photodermatitis. BT virus is known to cause abortion and be teratogenic. Affected sheep can lose condition very rapidly.

### **Diagnosis**

Diagnosis is based upon clinical signs and confirmed by serology and virus isolation. The differential diagnosis is important and must include naso-oral infection of sheep and cattle and those diseases causing loss of condition in sheep.

#### **Sheep**

Foot and mouth disease

#### **Cattle**

Foot and mouth disease

Orf  
Cobalt deficiency  
Photosensitisation

BVD  
IBR  
Malignant Catarrh  
Stomatitis  
Photosensitisation

### **Treatment, Prevention and Control**

Treatment is non-specific; severe cases may have to be destroyed for humane reasons. Other cases will require supportive and nursing care. Animals with severe oral lesions are reluctant to eat and those with muscle and coronary band pain will be unwilling to move. Affected animals must be moved indoors into the shade and given water. Treatment with antibiotics and NSAIDS will be beneficial

Animals must be protected from attack by midges, e.g. by spray with insect repellents though these may not be very effective in sheep. Consideration should be given to housing livestock at the time of peak midge activity in the dusk and early evening.

Stock may be treated with ivermectin. Midges are killed after biting ivermectin-treated animals, but may well infect their prey before death ensues. Attempts can be made to eliminate the midge's breeding ground. Research needs to be undertaken into the efficiency of insect repellents on *Culicoides* species when they are used in cattle and sheep.

Modified live virus vaccines are available and are used successfully. The vaccine should be based on the local strain of BT virus. Vaccination should be carried out two weeks before the start of the breeding season as the vaccine has been known to cause abortion and have teratogenic effects on the embryo.

BT is an Office International des Epizootics (OIE) List A disease, because of its potential for rapid spread, significant production losses and effect on international trade. Therefore following confirmation of BT on a premises, zones of protection are established:

Infection Zone of 20km  
Protection Zone of 100km  
Surveillance Zone of 150km

Within these zones there are movement restrictions and registration requirements.

### **Impact of the establishment of BT disease in UK ruminants**

If BT disease should become established in UK livestock, there would be significant effects on animal welfare with economic consequences for the livestock industry. It is imperative that all measures possible are taken to prevent the spread of BT to and within the UK. Much of the advice that was given to Government in our 2002 Report on 'Foot and Mouth Disease 2001 and animal welfare: lessons for the future' is also relevant to control of an outbreak of BT.

The principal welfare concerns are associated with:

- the clinical symptoms of the disease itself
- housing livestock which would normally be at pasture to minimise the risk of infection, though this is not very practical as a control method
- the consequences of movement restrictions within the Infection and Protection Zones
- emergency slaughter if eradication were to be attempted

Communication and publicity is very important to mitigate the effects of BT on animal welfare, and to help control any outbreak. There would likely be adverse consequences of an epidemic for the welfare of farmers and stockmen too. It is essential that farmers are made aware of the disease. This can be achieved via articles (with photographs) in the farming and veterinary press. Veterinary Practice newsletters would be particularly useful.

Once Blue Tongue becomes endemic in the UK, the chance of eradication of the disease would be poor because of the ubiquitous nature of the *Culicoides* vector and the reservoirs of infection that would become established in cattle and wild ruminants. A vaccination policy would be the only method of control. This would have a dramatic effect on future livestock exports.

Yours sincerely,

Professor Christopher Wathes  
Chairman, Farm Animal Welfare Council