



Disease, Pest Control and Farms – The Current Situation

(17 Oct 07)

Bluetongue and Foot & Mouth Disease

These are both highly topical issues and many members have enquired regarding the position of:

- going onto farms to undertake pest control treatments during the present foot and mouth outbreak;
- any other insect pests, other than midges, involved with Bluetongue?

The position concerning outbreaks for both these diseases changes on an almost daily basis. The most up to date information can be viewed on the Defra website.

For FMD – see www.defra.gov.uk/footandmouth

For Bluetongue see www.defra.gov.uk/bluetongue

Or contact the Defra helpline on 08459 335577.

Below is some useful information on the diseases and the current situation (correct at the time of writing but refer to the websites above)

1. **Bluetongue**

What is it?

Bluetongue is a disease of animals affecting all ruminants, including sheep, cattle, deer, goats and camelids (camels, llamas, alpacas, guanaco and vicuña). Although sheep are most severely affected, cattle are the main mammalian reservoir of the virus and are very important in the epidemiology of the disease.

Bluetongue is caused by a virus within the Orbivirus genus of the family *Reoviridae*. The virus is transmitted by a small number of species of biting midges of the genus *Culicoides*. Bluetongue virus cannot naturally be transmitted directly between animals. Virus transmission between animals occurs via the insect vector - the midges.

When a midge bites an infected animal, the virus passes to the midge in the blood meal and the virus multiplies in the midge. The cycle of replication of the virus in the insect vector and in the ruminant host, results in amplification of the amount of BTV available to uninfected naive hosts and vectors.



Peak populations of vector *Culicoides* occur in the late summer and autumn and therefore this is the time when Bluetongue is most commonly seen. It is thought that the type of *Culicoides* midge that carries the disease is not native to the UK.

There is no involvement of mosquitoes and Bluetongue. The virus does not infect people and there are no direct concerns over public health.

What is the current situation?

Outbreaks of bluetongue occurred in Germany, Belgium, France, the Netherlands and Luxembourg in 2007. The first reported case in the UK occurred on 22 September 2007 in two cattle on a premises near Ipswich, Suffolk. This has been followed by further cases in the Suffolk area. There are two leading theories given for the UK infection introduction:

- Midges being blown over from the Continent on prevailing winds and that the first UK animal infected was bitten by one of these;
- Infected midges could have travelled in on vehicles travelling to this country.

Zones of control for movement of farm animals have also been set up for bluetongue too. In the Inner area (the counties of Essex, Norfolk and Suffolk) farm-to-farm movements of cattle, sheep and other ruminants is not permitted. In the outer control area (Cambridgeshire, Northamptonshire, Lincs, Leicestershire, Nottinghamshire and Bedfordshire) farm-to-farm movements are allowed but only within the outer control area. The cumulative effect of both FMD & bluetongue controls means the whole of Eastern and South Eastern England falls within one or other of the control zones.

From midnight Saturday 29 September the Bluetongue Temporary Control Area was replaced with a Bluetongue Control Zone around the area where cases have been identified and a larger Bluetongue Protection Zone. Following cases in Essex, both these Zones were extended on 10 October. The Control Zone was further extended on 16 October. Check the declaration and maps at the website above to see if your customers' premises are included. Markets within the Control and Protection Zones, and the movement of susceptible animals from these Zones to approved slaughterhouses outside the Zones, have been permitted from midnight on Sunday 14 October, subject to conditions. Surveillance and epidemiological investigations are continuing.

What are the business opportunities?

The situation regarding Bluetongue in the UK is still emerging, but there may be pest control opportunities at farms and farmers' markets for general sanitation (disinfection) and for the use of insecticides through foggers or ULV machines to control midge / flying insect populations. No Defra guidance currently exists for this application.



2. Pest Control and Foot and Mouth Disease (FMD)

What is it?

Foot and mouth disease (FMD) is an acute infectious viral disease of animals causing fever, followed by the development of vesicles (blisters) - chiefly in the mouth and on the feet. It is probably more infectious than any other disease affecting animals and spreads rapidly if uncontrolled. Among farm stock, cattle, sheep, pigs, goats and deer are susceptible. Wild and domestic cloven-hooved animals and elephants, hedgehogs and rats are also susceptible.

The spread of FMD virus can occur in a number of ways: by direct contact between infected and susceptible livestock; by contact with or feeding on infected meat products and milk; by infected semen or embryos; by the airborne route; by mechanical carriage on people; domesticated or wild animals, birds, vehicles and fomites (any object or substance capable of absorbing infectious organisms such as germs or parasites) and hence transferring them from one individual to another. Sheep are more likely to be infected by direct contact, by the airborne route or through contact with contaminated people or carriage in contaminated vehicles. Sheep are infective for other susceptible animals by all routes both before lesions are apparent and in the early stages of lesion development. Virus production remains high until antibodies develop at approximately 4-5 days post infection. A proportion of recovered animals may become carriers although the proportion of virus recovered from these animals is much less than from acutely infected animals making this route of infection less important.

In the event of an outbreak, technicians, vets and people handling or coming into close contact with animals must disinfect themselves and their equipment before and after moving to other premises using those disinfectants approved for inactivating the virus. (An extensive list of approved disinfectants and their recommended working concentrations may be obtained from the Defra website. Although very susceptible to acid and alkali pH, FMD virus can persist in the environment, particularly when associated with organic material.)

A similar sounding disease - Hand-foot-and-mouth disease - isn't related to foot-and-mouth disease (sometimes called hoof-and-mouth disease). You can't contract hand-foot-and-mouth disease from pets or other animals, and you can't transmit it to them.

What is the current situation?

Defra is keen to give the impression that the countryside is not closed and that life should continue as normal. However, for farmers their livestock is their livelihood. Understandably farmers are likely to be highly sensitised in the current situation, especially if you are intending to visit a farm with susceptible animals i.e. cattle, pigs, sheep, goats or deer.

For the current Surrey outbreak, the Government has established zones of control, namely:

- Protection zone (PZ) – around the premises in Surrey, each of 3km radius;
- Surveillance zone (SZ) – of 10km radius from the centre of the Protected zones;
- Restricted zone (RZ) which applies to the whole of Great Britain outside of the PZ and RZ – but not Northern Ireland.



There are no official restrictions preventing pest control activities within any of these zones, but obviously all residents living within the Protection zone with susceptible animals are likely to be particularly sensitive. Defra advises that visits to all farms should be avoided unless absolutely necessary.

Before undertaking any type of pest control activity on a farm, or simply visiting a farm with susceptible animals, it is recommended that you:

- Contact the farmer prior to your intended visit to gain their approval;
- Assuming your proposed visit is sanctioned, enquire what biosecurity procedures you are required to follow.
- The farmer will be expected to keep a record of your visit onto the farm.

A useful leaflet detailing biosecurity requirements can be downloaded off the Defra FMD website www.defra.gov.uk/footandmouth

What are the business opportunities?

Foot and mouth disease control in the UK is mainly through improved sanitation and controlled stock movement. There may be opportunities at farms and farmers' markets for biosecurity measures using approved products. The above leaflet explains these issues further.

- Please note: If you are proposing to carry out such work, or if you are visiting farms it is essential that you clean yourself, your vehicle and everything you carry thoroughly when you move between different groups of livestock on the farm. Keep everything clean – materials like mud or bedding on clothes, boots, equipment or vehicles can carry the virus from farm to farm or between different groups of livestock on the farm. All visitors must follow biosecurity measures for both themselves and their vehicles.

Defra advises that visits to all farms in the protection zone should be avoided unless absolutely necessary.