



Livestock Notifiable Disease Factsheets

Brucellosis (*Brucella melitensis*)

If you suspect signs of any notifiable disease, you must immediately notify a Defra Divisional Veterinary Manager.

Definition

Brucella melitensis is a bacterial disease which can affect most species of domestic animals, but sheep and goats, particularly milking breeds, are the most susceptible. Cattle may occasionally be affected and the disease may appear in pigs. In humans the disease is known as Malta fever, and is similar to, and perhaps more severe than, that caused by *B. abortus*. Strict hygiene precautions should be followed when handling animals or aborted foetuses.

Clinical signs

Infection is normally by inhalation and via abraded skin, and transmission between species occurs readily. Humans usually become infected by ingestion of affected milk. The post-partum discharges (after-birth) of infected females contain large numbers of bacteria whether or not the animal has aborted. After abortion, infection may persist in the uterus for many months, and in the udder for years. The level of infection in milk and uterine discharges is probably lower in sheep than in goats. As with *B. abortus*, viable offspring from infected females may also be infected but seronegative, and may discharge infection following their first parturition or abortion. These animals would thus be a significant risk when imported into an uninfected flock or herd, and it is essential that animals be added only from flocks/herds of known free status.

When infection is first introduced into a flock or herd, there may be an "abortion storm". Fever, depression, mastitis, arthritis, synovitis, orchitis or nervous signs may accompany acute infection in both sheep and goats. A chronically infected flock or herd may show few abortions or clinical signs. There are no lesions which distinguish *B. melitensis* affected animals from animals with other diseases which also cause abortions.

Geographical spread

B. melitensis is prevalent in Mediterranean and Middle Eastern countries through Central Asia to China and southern areas of the former Soviet Union. Some areas of Africa and India, as well as Central and South America are affected.

In areas where the disease occurs, attention is often drawn to a flock or herd by the diagnosis of Brucellosis in human contacts. The diagnosis of an individual clinical episode in livestock depends upon the isolation of the organism, whose cultural requirements are similar to those of *B. abortus*. Diagnosis of flock or herd infection can be made using tissue from aborted foetuses or placenta may be taken, as well as blood samples for serology.

Tests

Annual surveys are co-ordinated in the UK for *B.melitensis*. Surveyed blood samples are tested using ELISA and serum agglutination tests at VLA Weybridge. Whole flock tests are usually more valuable than individual tests for serology. Submission of samples relating to abortions are tested at regional veterinary laboratories using ELISA and Rose Bengal Test (RBT). Further investigations of suspect or positive cases are undertaken by VLA Weybridge..

Great Britain Legislation

Brucella melitensis was originally made notifiable by the *Brucella Melitinsis* Order of 1940 (as amended). This Order was revoked and replaced by the Specified Diseases Order.

Council Directive 91/68 defines a *B.melitensis* free flock or herd, an officially free flock or herd, and an officially free region. The UK was recognised as officially free from *B.melitensis* by Commission Decision 93/52. Council Directive 91/68 requires sheep and goats imported into an officially free holding (i.e. into any flock or herd in the UK) to originate from an officially free holding, or from a free holding and be subject to testing in isolation before the movement. Ireland, Germany, Luxembourg, Belgium, Netherlands, Sweden, Denmark and Finland are also recognised as *B.melitenis* free.

Many Departments in France were also recognised as free of *B.melitensis* by EU Decision 93/52. In addition, Commission Decision 2003/237 recognised parts of Italy, Portugal and Spain as free of this disease.

We are required to carry out testing each year to demonstrate with 95% confidence that fewer than 0.2% of holdings are infected, or to test each year at least 5% of sheep and goats in the country over the age of six months.

Information current of June 16, 2005