



Livestock Notifiable Disease Factsheets Swine Vesicular Disease

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

Animals affected

Pigs

History and spread of the disease

Swine vesicular disease (SVD) is contagious disease caused by a virus. It was first diagnosed and probably first appeared in Italy in 1966. There was much speculation as to the origin of this apparently new disease, and some laboratory data supported the idea that it was a new virus derived in part from a human enterovirus. The first outbreak of SVD in Great Britain was in 1972. Over the next ten years 532 cases involving a total of 322,081 pigs were confirmed before the disease was eradicated from this county in 1982.

SVD has persisted in Italy, where in 2002 there were 171 outbreaks of this disease, with a further 31 cases in 2003, and further outbreaks through 2004. The rest of Europe is now free of SVD apart from two cases in Portugal, early in 2004.

Clinical signs

The symptoms are clinically indistinguishable from foot-and-mouth disease in pigs. The incubation period of SVD is between two and seven days, and following a transient fever of up to 41 degrees Centigrade, vesicles (blisters) develop on the coronary band, typically at the junction with the heel. The disease usually appears suddenly but does not spread with the same rapidity as foot-and-mouth disease. Mortality is low but in acute cases there can be some loss of production. In the initial stages there is fever and a transient loss of appetite. Lameness develops due to the eruption of vesicles at the top of the hooves and between the toes. Vesicles may also develop on the snout, tongue and lips. The surface under the vesicles is red and this gradually changes colour as healing develops. When severe vesication has occurred at the hoof head, the entire hoof may be shed. In less severe cases the healed lesion may grow down the hoof and its presence is indicated by a black transverse mark. Recovery is usually complete within two to three weeks. This description of the signs of SVD will vary according to the age of the pigs affected, the conditions under which they are kept, and the strain of SVD virus involved. Disease caused by mild strains can go unnoticed, particularly in pigs kept on grass or housed in deep straw. Younger animals are more severely affected, although mortality due to SVD is rare. Nervous signs are unusual.

Diagnosis

Clinically, SVD cannot be distinguished from FMD. Following notification of a suspected outbreak, samples are sent to the Institute for Animal Health at Pirbright. As much vesicular fluid and infected epithelial tissue as possible must be collected in 50-50 PBS glycerol

buffered to pH7.2, for although SVD virus is pH stable, FMD virus is not, and must be protected during transport. It may be necessary to slaughter or sedate an affected pig to collect adequate samples. In addition, because the disease may have been present unnoticed on the premises for some time, serum samples from in- contact and other groups of pigs on the farm should be submitted for evidence of antibodies to the SVD virus.

At Pirbright, tissue samples will be tested by ELISA for virus antigen and put onto susceptible tissue culture for virus recovery. A positive result may be submitted within four hours. If initially negative, the tissue will be cultured for 96 hours before a final result is given. Serum is also tested by ELISA and virus neutralisation.

Control

All pigs on SVD infected premises will be slaughtered and the carcasses incinerated, burned, buried, or taken in leak-proof vehicles to a rendering plant. All movements of animals, people, vehicles, food, equipment and manure, including slurry, onto and from the infected premises from 28 days before the date on which the virus is estimated, by examination of affected pigs, to have entered the farm are traced.

Movement restrictions are then served on any pig-keeping premises identified by tracing. These restrictions remain in force until the premises are confirmed free of disease. Additionally, restrictions are placed on farms within 3 kilometres of the outbreak and pigs would be allowed to move under licence only direct to slaughter.

Eight weeks after the first complete disinfection, a limited number of pigs may be allowed back onto the premises, and these are kept in the previously infected pens as sentinel animals. These pigs are monitored for signs of SVD or the development of antibodies to the SVD virus, and if still negative after three weeks DEFRA will allow limited restocking. Although vaccines have been developed to protect pigs against SVD, they are not at present considered an acceptable option.

In addition to measures designed to prevent the spread of SVD from an infected premises there is general legislation particularly relevant to the prevention of the SVD virus coming into contact with pigs. These include controls on the feeding of waste food to pigs, cleansing and disinfection of livestock vehicles, the movement of pigs and the keeping of movement records.

Great Britain Legislation

The **Swine Vesicular Disease Order 1972** applies Foot-and-Mouth legislation to the control of this disease.

The **Swine Vesicular Disease (Compensation) Order 1972** provides that, where an animal is affected with SVD, compensation shall be the value immediately before it became infected. In every other case, compensation shall be the value immediately before it was slaughtered.

EU Legislation

EU Directive 92/119 includes control measures for this disease.

Pictures of the disease



Early lesions on coronary band of foot.



Old lesions on recovered pig showing banding growing out of hoof.



Vesicular lesions on snout.

Information current of June 16, 2005