

JOINT INDUSTRY GOVERNMENT WORKING GROUP ON SHARING RESPONSIBILITIES AND COSTS OF ANIMAL DISEASE.

Disease List (Expanded)

The following brief information has been collected from the Defra and OIE website. For more information initially consult <http://www.defra.gov.uk/animalh/diseases/notifiable/index.htm>

1. African Swine Fever

African swine fever (ASF) is a highly contagious viral disease of pigs. Some strains of the virus cause severe disease and high mortality. *Ornithodoros* ticks, where present, can act as vectors of the ASF virus. ASF is clinically indistinguishable from Classical Swine Fever (CSF).

The main risk of ASF introduction is via infected pigmeat or pigmeat products, for example illegally imported pigmeat or bush meat from infected countries or legally imported meat from areas with undetected infection. The ASF virus can survive for many months in raw unprocessed frozen meats.

The disease could also be introduced through imported infected animals. The movement of infected pigs is a common method of spreading ASF. Apparently healthy pigs may be incubating disease and recovered pigs can excrete the virus for long periods of time

The virus can survive outside the pig for a long time, so the movement of contaminated vehicles, clothing, footwear and equipment can also spread disease. The ticks (*Ornithodoros spp*) that may spread the disease in other countries are not present in the UK.

2. Avian Influenza

Avian influenza (Also known as Fowl Plague) is a highly contagious viral disease affecting the respiratory, digestive and/or nervous system of many species of birds. It is caused by a Type A influenza virus. There are two types of avian influenza virus, low pathogenicity (LPAI) and high pathogenicity (HPAI). The last outbreak of avian influenza in Great Britain was in 1991.

This disease can be spread in a number of different ways including:

- Direct contact with secretions from infected birds, especially faeces
- Contaminated feed, water, equipment and clothing
- Waterfowl and sea birds may introduce the virus into flocks.
- Broken contaminated eggs may infect chicks in the incubator

3. Classical Swine Fever

Classical swine fever (CSF) is a highly contagious viral disease of pigs. In its acute form the disease generally results in high morbidity and mortality. The main source of CSF appears to be from pigs eating infected pork or pork products. In this form the CSF virus can remain active for many months.

The movement of infected pigs is a common method of spreading CSF. Apparently healthy pigs may be incubating disease and recovered pigs can excrete the virus for long periods of time. The virus can exist outside the pig for a long time, so the movement of contaminated vehicles, clothing, footwear and equipment can also spread disease.

4. Contagious Bovine Pleuro-Pneumonia

Contagious Bovine Pleuro-pneumonia is a contagious disease affecting the lungs and pleura of cattle and other closely related ruminants, and is caused by an infective organism - *Mycoplasma mycoides*. It was eradicated from the United Kingdom in 1896.

Contagious Bovine Pleuro-pneumonia can be spread in the following ways:

- Aerial, mostly by direct contact: droplets emitted by coughing animals, saliva, and urine. Transmission up to several kilometres has been suspected under favourable climatic conditions
- Trans-placental infection can occur
- Inapparent carriers are a major source of infection
- Cattle movement is important in the spread of the disease

5. Enzootic Bovine Leukosis

Enzootic Bovine Leukosis is a transmissible disease caused by a virus. It can be transmitted both vertically, mother to calf, and horizontally, cow to cow; causing leukaemia and multiple tumours. It is an Office International des

Epizooties (OIE) List "B" disease. The first confirmed case in GB cattle was in 1978 and the last was in 1996. A notifiable disease it has been eradicated in Great Britain, with Great Britain being granted Enzootic Bovine Leukosis -free status by the EU Commission in July 1999.

6. Foot and Mouth

Foot-and-mouth disease (FMD) is an acute infectious disease, which causes fever, followed by the development of vesicles (blisters) - chiefly in the mouth and on the feet. The disease is caused by a virus of which there are seven 'types', each producing the same symptoms, and distinguishable only in the laboratory. FMD is probably more infectious than any other disease affecting man or animals and spreads rapidly if uncontrolled. Among farm stock, cattle, sheep, pigs, goats and deer are susceptible. Elephants, hedgehogs, rats and any wild cloven-footed animals can also contract it. FMD is endemic in parts of Asia, Africa, the Middle East and South America, with sporadic outbreaks in disease-free areas.

The virus is present in great quantity in the fluid from the blisters, and it can also occur in the saliva, milk and dung. Contamination of any objects with any of these discharges is a danger to other stock. At the height of the disease, virus is present in the blood and all parts of the body. Heat, sunlight and disinfectants will destroy the virus, whereas cold and darkness tend to keep it alive. Under favourable conditions it can survive for long periods.

Airborne spread of the virus can take place and under favourable climatic conditions the disease may be spread several miles by this route. Animals pick up the virus either by direct contact with an infected animal, or by contact with foodstuffs or other things which have been contaminated by such an animal, or by eating or coming into contact with some part of an infected carcase.

7. Newcastle Disease

Newcastle disease is a highly contagious disease of birds caused by a para-myxo virus. Birds affected by this disease are fowls, turkeys, geese, ducks, pheasants, guinea fowl and other wild and captive birds, including ratites such ostriches, emus and rhea.

The routes for transmission include direct contact with secretions, especially faeces, from infected birds. Contaminated feed, water, implements, premises, human clothing, etc. can amplify to the spread of the disease.

8. Rinderpest

Cattle plague, also known as Rinderpest, is a contagious disease that principally affects cattle, but occasionally can also affect sheep, goats and camels, certain wild ruminants and pigs. It was last reported in the United Kingdom in 1877.

Transmission is by direct or close indirect contacts.

9. Swine Vesicular 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 country 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. Virus readily infects via lesions in skin and mucosa. Direct contact or contact with excretions from infected pigs. Faecal contamination is a major source of virus spread, often within contaminated vehicles Meat scraps and swill derived from infected pigs

10. Peste des Petit Ruminants

This disease, also known as Goat Plague, is one of the EU Specified Diseases which has never occurred in this country. It is a rinderpest-like contagion of goats and sheep characterised by erosive stomatitis, enteritis, pneumonia and death. Economically it is the most important animal disease in

southern equatorial Africa, being a major constraint on the availability of animal protein for human consumption.

Sick goats and sheep generate aerosols containing infective droplets. Successful transmission therefore requires close contact between sick and healthy animals. Fomites do not play a role in transmission of the virus. There are seasonal variations, with more frequent outbreaks during the rainy season.

11. Lumpy Skin Disease

This disease, caused by a pox virus, is an infectious, eruptive and occasionally fatal disease of cattle characterised by nodules on the skin. Cattle and water buffalo are the only livestock species affected, with high morbidity rates but low (around 1 per cent) mortality. Death rates are greater among calves. It causes damage to hides, loss of milk and beef production, abortions in females and sterility in males.

Transmission may occur *via* infected saliva in the absence of an insect vector. Though no specific vector has been identified to date, mosquitoes (e.g. *Culex mirificens* and *Aedes natrionus*) and flies (e.g. *Stomoxys calcitrans* and *Biomyia fasciata*) could play a major role.

12. Blue Tongue

Bluetongue is an insect-borne viral disease to which all species of ruminants are susceptible, although sheep are most severely affected. However, cattle are the main mammalian reservoir of the virus and are very important in the epidemiology of the disease. It is characterised by changes to the mucous linings of the mouth and nose and the coronary band of the foot. Bluetongue is present when it is confirmed by laboratory tests that the Bluetongue virus (BTV) is circulating in an area.

Transmission is by Biological vectors such as *Culicoides* spp

13. Vesicular Stomatitis

Vesicular diseases of swine can be caused by infection with foot-and-mouth disease, swine vesicular disease, vesicular stomatitis, and vesicular exanthema of swine or San Miguel sea lion virus. This disease was first

reported in the American Civil War, and is currently limited to the Americas. It has never occurred in Europe, including the UK. This disease is clinically indistinguishable from FMD and laboratory diagnosis is necessary, and again has high morbidity rates, but low mortality. Hosts include humans, horses and cattle as well as deer and some small mammals.

Transmission is via a number of routes, particularly by a transcutaneous or transmucosal route. Biting insects may also act as a vector.

14. Rift Valley Fever

First discovered in Kenya in 1931, it is characterised by a short incubation period, fever, hepatitis, high morbidity in lambs less than one week of age, and high abortion rates. The disease is caused by the Rift Valley Fever (RVF) virus, a member of the genus Phlebovirus in the family Bunyaviridae and the disease is transmitted by mosquitoes. Limited to Africa in earlier years, it causes enormous waste of livestock, especially in wet conditions. Humans are very susceptible to this disease and therefore it's a major zoonosis. Transmission is either through certain biting insects such as mosquitoes, which can also act as a reservoir for the disease. Infection (including in humans) can also occur through direct contact and handling of animals and animal products.

15. Sheep/Goat Pox

Goat pox is a contagious viral disease, also known as *Variola caprina*. Sheep pox and Goat pox are probably caused by the same virus. Virus in dried scabs can be infective for up to 6 months. In susceptible populations mortality may be high among young animals, in some cases up to 100%.

The virus is spread by the respiratory route and is most likely to occur with crowding and gathering of stock, other infection routes include Direct contact, Indirect transmission by contaminated implements vehicles or products. Indirect transmission by insects has been established but seen as a minor role.

16. Fowl Typhoid

Fowl typhoid and pullorum disease, caused by *Salmonella enterica* subspecies *enterica* serovars Gallinarum and Pullorum, respectively, are widely distributed throughout the world but they have been eradicated from commercial poultry in many developed countries of Western Europe, the United States of America (USA), Canada, Australia and Japan.

Ovarian transmission is a major route by which the organism can spread. Game birds and 'backyard' poultry flocks may act as reservoirs of infection, and wild birds may act as vectors for the organism and as such are important in the epidemiology of the disease.

17. Contagious agalactia

Contagious agalactia is a disease syndrome of sheep and goats that is characterised by mastitis, arthritis, keratoconjunctivitis and, occasionally, abortion. The bacterial agent *Mycoplasma agalactiae* is the main cause of the disease in sheep and goats.

Transmission is usually through close contact and certain body fluids.

18. Contagious epididymitis

Contagious epididymitis is a bacterial infection from the *Brucella* family, which include *Brucella abortus* and Caprine and ovine brucellosis (*Brucella melitensis*). *Brucella ovis* affects only sheep. Goats may be infected experimentally, but most laboratory species appear resistant. Infected flocks may suffer considerable economic loss because of poor fertility. There are no records of human infection, and the disease is not classed as a zoonosis. Infection in rams may produce an acute systemic response with fever and depression. The organism may subsequently localise in the epididymis. Inflammatory cells then appear in the semen from 2 - 8 weeks after infection, and the semen quality deteriorates.

Rams are infected by exposure to infected semen or to vaginal discharges from infected or aborting ewes. The sniffing and nosing behaviour of rams in ewe flocks which could lead to infection through the nasal passage. Ewe to lamb transmission is probably important vector