Notifiable and zoonotic diseases of pigs

Diseases notifiable to the Office International des Epizootics (OIE – World Organisation for Animal Health)
Zoonotic diseases of Pigs

Other diseases:

- Anthrax
- Enterovirus encephalomyelitis
- Japanese Encephalomyelitis virus
- Nipha
- Porcine cysticercosis – See Diseases of the intestinal tract - Parasites
- Rabies
- Rinderpest
- Toxoplasmosis
- Trichonellosis – See Diseases of the intestinal tract - Parasites
Diseases of pigs which are notifiable to the OIE

List A

Transmissible diseases that have the potential for very serious and rapid spread, irrespective of national borders, that are of serious socio-economic or public health consequence and that are of major importance in the international trade of animals and animal products.

African swine fever
Classical swine fever
Foot and mouth disease
Rinderpest
Swine vesicular disease
Vesicular stomatitis

List B

Anthrax
Atrophic rhinitis of swine - Toxigenic Pasteurella multocida
Aujeszky's disease / Pseudorabies
Echinococcosis/hydatidosis – Echinococcus granulosus
Enterovirus encephalomyelitis
Leptospirosis
New world screwworm (Cochliomyia hominivorax)
Old world screwworm (Chrysomya bezziana)
Porcine brucellosis
Porcine cysticercosis – Taenia solium
Porcine reproductive and respiratory syndrome
Rabies
Transmissible gastroenteritis virus
Trichinellosis - Trichonella spiralis

(Check up on Tularaemia
Meliois—is – see Jim’s paper
Menagle Virus
Coccidiomycosis)
Zoonotic diseases of pigs

Anthrax
Brucellosis
*Campylobacter jejuni*
Chagas’ Disease – *Trypanosoma cruzi*
Clamydia
*Clostridium perfringens* type A
Erysipelas
*Escherichia coli*
Japanese B encephalitis
Louping ill
Leptospirosis
Nipha disease
Pasteurellosis
Rabies
Ringworm
Salmonellosis
*Streptococcus suis* II
Swine Influenza
*Taenia solium* – Porcine cysticerosis
Toxoplasmosis
*Trichinella spiralis*
Tuberculosis
Vesicular diseases
*Yersina enterocolitica*
Other important diseases which may infect pigs

Anthrax
Enterovirus encephalomyelitis
Japanese Encephalomyelitis virus
Nipha
Porcine cysticerosis
Rabies
Rinderpest
Toxoplasmosis
Trichonellosis
Tuberculosis
Yersina enterocolitica
# Nipah Disease

<table>
<thead>
<tr>
<th><strong>Origin of name</strong></th>
<th>From the village, Sungai Nipah, Malaysia, where the virus was isolated from the first human victim</th>
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<tbody>
<tr>
<td><strong>Causal agent</strong></td>
<td>Virus – a paramyxovirus closely related to the Hendra virus</td>
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<tr>
<td><strong>Age group</strong></td>
<td>Weaners, growers and finishers and adults</td>
</tr>
</tbody>
</table>
| **Clinical signs** | *Weaners*  
Mild to severe coughing. High morbidity but low mortality  

*Sows and boars*  
Moderate to severe respiratory signs with dyspnoea, convulsions and death. Death can occur within several hours. |
| **Infectivity**    | Infection via oral route with incubation period of 14 to 16 days. |
|                    | Dogs and flying foxes have been found to be seropositive                                         |
| **Post-mortem Lesions** | Varying degrees of consolidation of the lungs, primarily the diaphragmatic lobes (prominently thickened interlobular septa). Kidneys show signs of congestion. Other organs normal |
| **Diagnosis**      | Virus isolation and serological                                                                   |
| **Treatment**      | None, notifiable disease. Inform government vet with any suspicions                               |
| **Common differentials** | Actinobacillus pleuropneumonia. *Haemophilus parasuis* in adults                               |
| **Zoonotic implications** | Very fatal to man, out of 258 people infected 100 died                                           |
|                    | Mild to severe clinical signs, characterised by fever and headaches of varying severity. Patients become drowsy and disoriented leading to coma. Majority of patients developing coma die. |
|                    | Incubation period in man one to three weeks                                                         |
Anthrax

Anthrax is caused by the bacterium *Bacillus anthracis*. When this bacteria infects a pig there may be very few clinical signs, but occasionally the bacteria results in an acute illness, fever, respiratory distress and sudden death. Anthrax should be suspected in any pig found suddenly dead with a swollen neck with copious blood tinged mucus and large haemorrhagic lymph-nodes.

When suspicious, make an incision into the swollen neck region and take some of the lymph fluid. Do not fix the slide with heat, allow to air dry. *Bacillus anthracis* does not form the characteristic capsule readily in pigs and the capsule that does form is broken down with heat. If the suspicions are confirmed, stop the post-mortem and inform a government veterinarian. In pigs the spleen is not enlarged as in cattle.

Take great care with diseases animals and the carcase as anthrax is zoonotic.

The source of *B. anthracis* is normally through contaminated feed. Outdoor sows may contract spores through the soil or contact with carcasses.

Rabies

Rabies is caused by a Rhabdovirus. The disease is rare in pigs. Pigs however, like all mammals may become infected if bitten by an affected animal – for instance a Raccoon in the USA. Following an extremely variable incubation period, sometimes over 100 days, the pig suddenly develops clinical signs of incoordination and dullness which within days progresses to prostration and death. Diagnosis can be problematic as post-mortem lesions may be non-descript. If suspicious submit the whole carcase to a diagnostic laboratory. There is no treatment. Control is via good biosecurity, limiting pigs’ access to other wild mammals. This can be impossible in outdoor or pasture pigs. Pet pigs may be vaccinated every three years using a standard canine rabies vaccine, but note the vaccine is not licensed or proven on pigs.

Tuberculosis

Pigs are susceptible to *Mycobacterium tuberculosis*, *M. bovis* and *M. avian/intracellular* complex. Majority of the cases are associated with *M. avian/intracellular* complex resulting in nodules in the lymph nodes of the neck and small intestine.

This may result in head and possibly the whole carcase if the case is more progressive. Many of these TB nodules actually reveal *Rhodococcus equi* rather than mycobacterium. There are no clinical signs in the pig.
The source of the infection can include:
- Outdoor pigs – badges and poultry manure
- Sawdust and shavings
- Peat – particularly if unpasturized when used in as piglet gut conditioners in the farrowing house
- Water contamination

Infected pigs can be identified by routine TB testing.

**Japanese B Encephalitis virus**

Japanese B Encephalitis virus is common in South Asia. The virus belongs to the Flaviviridae family. The disease causes few problems in the pig, perhaps being associated with sporadic reproductive problems. The significance of the disease is associated with public health. The major clinical sign, when there are any, may include testicular degeneration and loss of fertility in the male and the birth of abnormal piglets with mummification. The disease is spread by mosquitoes.

In areas where Japanese B Encephalitis virus is common, vaccination is possible prior to the mosquito season. West Nile Virus is another Flaviviridae and it remains to be demonstrated if West Nile Virus is implicated in reproductive problems in pigs.

**Enterovirus Encephalomyelitis**

The clinical disease is called Teschen or Talfan and is associated with porcine enterovirus serotype 1. The disease agent is extremely common and widespread. The clinical signs are more common in weaned or growing pigs that develop an ascending paralysis particularly of the hind legs leading to a swaying gait and ultimately total paralysis.

Diagnosis can be confirmed by paired serology. There is no effective treatment. Control is by good introduction and acclimatization programmes, particularly of gilts and ensuring adequate colostrum intake of piglets.

**Toxoplasmosis**

Toxoplasmosis is caused by the protozoa *Toxoplasma gondii*. This is a zoonotic disease. Cats are the primary host. Initially pigs become infected by ingesting feed or water contaminated by cat feaces. The pigs can then spread the parasite within a group by biting and vices, eating infected rodents and through feed back of placenta. There are no real specific clinical signs in the pig. The disease is significant from a meat hygiene aspect.