

NADIS disease bulletins are written specifically for farmers, to increase awareness of prevalent conditions and promote disease prevention and control, in order to benefit animal health and welfare.  
Farmers are advised to discuss their individual farm circumstances with their veterinary surgeon.

## **Salmonella Cholerae-suis**

Salmonella in pigs has become a significant issue in the last 12 months as the ZAP monitoring programme has been put in place. This monitoring programme is not, however, about disease in pigs – it is about looking for evidence at slaughter of previous infection with Salmonellae that may be a potential source of infection for consumers of pork products. Whilst nationally about 25% of samples (i.e. pigs) are positive on this test, the incidence of disease in pigs is extremely low. However, if you look hard enough at normal pigs, Salmonellae can often be isolated. There are over 2000 species of Salmonellae recognised and these are divided up into groups designated by a letter of the alphabet. The serological test used in slaughter pigs will only detect Group B and C Salmonellae. These are thought to contain the most common species found in pigs which can cause food poisoning, especially in Group B e.g. Salmonella derby, Salmonella typhimurium and Salmonella kedougo. Group C Salmonellae contains, amongst others, Salmonella cholerae-suis, which is a rarely found strain but one which causes serious disease in pigs (but is not implicated in human food poisoning).

Its name indicates its significance – cholera of pigs; it is no coincidence that disease caused by Salmonella cholerae-suis is closely linked to Classical Swine Fever – also known as Hog Cholera – and was common in the 1960's before Classical Swine Fever was eradicated.

Salmonella cholerae-suis does, however, occasionally appear as a problem in pigs and can present in 2 forms.

### **Clinical Presentation**

- 1) Septicaemic form. The most severe form of the disease and causing “cholera”. This is an acute septicaemic disease in which young growing pigs, if seen alive, will be extremely ill – vomiting, depressed, laboured breathing and with a very high rectal temperature (41°C +). One of the chronic features of the disease is that the extremities will turn purple/blue, particularly the ears, scrotum and feet. Mortality rates are high.
- 2) Enteric form. A much milder disease, Salmonella cholerae-suis can be involved in causing scour in young growing pigs, in which case it appears to be restricted to the gut. In this sense, it behaves more like the other strains mentioned above, especially Salmonella typhimurium. Mortality is low, although the disease can be debilitating and may be part of the complex of disease that has its foundation in Post Weaning Multisystemic Wasting Syndrome (PMWS).

### **Diagnosis**

Diagnosis of septicaemic/cholera forms of the disease is based on clinical presentation, post mortem findings (a typical septicaemic carcass is produced) and culture of causative organism. In the enteric form, the organism may appear almost as a surprise in an investigation of weaner scours.

All Salmonellae are covered by the Zoonoses Order and, even though *Salmonella cholerae-suis* has no zoonotic implications, the isolation of this bacterium would lead to reporting and potential investigation by state authorities.

### **Treatment**

Antibiotics, if carefully chosen, are highly effective at killing *Salmonella cholerae-suis* and the veterinary surgeon will make appropriate recommendations based on information available. If caught early, pigs affected with septicaemia can recover, although many die despite treatment. Prevention of disease in an infected environment can be achieved by use of oral (via feed or water) antibiotics. Vaccination is not available from commercial sources in the UK, although in problem herds autogenous vaccines can prove very effective.

The enteric form of the disease normally responds well to appropriate water soluble medication.

### **Prevention**

*Salmonella cholerae-suis* is primarily a pig-based organism and, thus, the most likely source of infection in carrier pigs. Careful selection of sources of stock is vital to keep disease out. However, the organism is excreted in the faeces and can potentially spread into a farm by any mechanical vector carrying faeces (lorries, people and equipment) or biological vectors such as birds, rodents etc. Thus, herd biosecurity is critical.

Once present on a farm, hygiene levels will determine the ease and speed with which disease can be controlled. As with all enteric-based diseases, scrape through systems, continual occupation and lack of washing and disinfection will all tend to favour persistence of the organisms.

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