International Pig Topics'
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003 – Swine fever – I

Introduction

Swine fever is also known as hog cholera and is a viral disease of pigs that can occur in a variety of forms – acute, subacute, chronic, atypical or inapparent. The acute form is characterised by high mortality, whereas the inapparent forms of the disease can often go unnoticed.

The history of the disease is somewhat obscure but it probably first occurred in the USA about 1810 and possibly in France and Germany in the 1820-30s. The disease definitely moved from the USA to England in 1862 and subsequently spread into Europe. At the turn of that century the disease was reported in South America and South Africa. Swine fever has a global distribution but over recent decades various countries have rid themselves of the disease including Australia, Belgium, Canada, France, New Zealand, the Scandinavian countries, Spain and Portugal, Switzerland, UK and USA.

Cause of swine fever

Swine fever is caused by a pestivirus, which is a small, enveloped single stranded RNA virus that is related to the bovine viral diarrhoea virus and the border disease virus.

Field strains of swine fever virus vary significantly in virulence. Highly virulent strains induce acute disease with high mortalities and moderately virulent strains cause subacute or chronic forms of the disease. Post natal infection with low virulence strains causes only mild or subclinical disease, but infection with these strains pre-natum can cause foetal mortality and deaths in newborn piglets.

The manifestation of infections with swine fever viruses of moderate virulence is modified by factors such as breed, age, immune competence and the nutritional status of the infected pigs.

Epidemiology of swine fever

Pigs are the only natural host for the swine fever virus and the main means of spread is contact between infected and uninfected pigs. As in many viral diseases infected pigs will shed swine fever virus before clinical signs are seen and shed the virus throughout the time they are showing clinical signs. Viral shedding is via nasal and eye discharges, urine and faeces and can typically last for up to three weeks with virulent strains of the virus, but usually for shorter periods with milder strains.

Chronically infected pigs can shed virus up until they eventually die or recover. Infection of pregnant sows can cause stillbirths and the birth of weak piglets. Congenitally infected piglets that are born healthy can act as sources of infection that are hard to detect and can result in swine fever persisting in a herd for months before its eventual detection – these can play a very important role in the epidemiology of this disease.

Swine fever can be introduced into a susceptible herd by the purchase of infected gilts or the feeding of improperly treated swill containing pork products derived from infected animals.

Eradication programmes should be based on the detection of infected herds and their eradication, although in some countries vaccination may be employed.

Swine fever can circulate in wild pig populations. This can present a real risk to pigs in countries where outdoor production occurs.