

New Zealand remains free from swine fever

A diagnosis of possible swine fever (hog cholera) made at Ruakura Animal Health Laboratory in November 1988 triggered off an emergency response procedure.

Swine fever is a highly infectious disease of pigs caused by a pestivirus which fortunately has occurred only rarely in New Zealand and Australia. The disease has been recorded worldwide but has since been eradicated from Denmark (1933), Sweden (1944), Ireland (1958), Australia (1962), Canada (1963), United States (1976), Japan (1975), United Kingdom (1988), and Netherlands (1989).

The first outbreak in New Zealand was recorded in 1933 and involved 13 garbage feeding piggeries in the Wellington area. The next outbreak occurred in a single garbage feeding piggery in Auckland in 1953. New Zealand has remained free of swine fever ever since. A major potential source of infection is infected pig meat which has entered the country illegally. The Agricultural Quarantine Service guards our sea and airports constantly, but it is still possible that some illegal pig meat could slip through. Swine fever, if suspected, must be reported to the Chief Veterinary Officer by immediate phone call.

Case history

Six 12-day-old suckling pigs from three litters in the same farrowing house died over 2 days. No other pigs in the 300 sow breeding herd were sick at the time or over the next 12 days.

The necropsied pigs showed multiple pin-point haemorrhages in the skin, kidney, urinary bladder, brain, lungs, larynx, heart and stomach. The carcass and visceral lymph nodes were haemorrhagic. These changes are strongly suggestive of an acute infectious disease. Swine fever could not be ruled out. The piggery was visited by a MAFQual veterinary officer in the company of the owner's consulting veterinarian. A disease control place (DCP) notice was issued, effectively controlling the movement of animals off the premises. The piggery owner already operated a strict hygiene security protocol for visitors on and off the premises. The veterinary officer visited the piggery frequently to assess any new developments. Apart from the six deaths no other animals were sick whilst the piggery was under quarantine. Laboratory tests were carried out on tissues taken from the dead pigs.

Histopathology

A wide range of tissues was examined by Ruakura AHL pathologists in consultation with the MAFQual pathology registry pathologist. No changes characteristic of swine fever were seen.

Bacteriology

No bacterial pathogens were recovered.

Virology

Fresh samples were air-freighted to the high security isolation unit at the Central Animal Health Laboratory, Wallaceville. Lymphatic tissue samples were prepared and inoculated into four weaner pigs and tissue culture. The results of all tests were negative. The inoculated pigs remained healthy. These pigs did not develop antibodies to bovine virus diarrhoea, a pestivirus antigenically similar to swine fever and endemic in New Zealand cattle.

The emergency was wound down after 12 days and the DCP notice removed. The response to a potential serious disease threat was operated with speed and with the full co-operation of the owner and his veterinary consultant. The operational process highlighted how important it is to have a viable and competent veterinary infrastructure, both in private veterinary practice and in MAFQual, to maintain a high level of agricultural security in our primary animal industries.

Diagnosis

While no definitive diagnosis was made, it was possible to rule out swine fever.

D E Lake
MAFQual Ruakura