Serious Horse Disease Hits America: Could It Happen Here?

Just a few years ago (September 1999) the National Veterinary Services Laboratories of the US Department of Agriculture isolated a virus from birds in the New York City area. On examination of this virus they found that it was similar to the West Nile Virus (WNV), a virus that hitherto had not been found in the Western Hemisphere. Shortly after identification of the virus, authorities found that it was the cause of an outbreak of brain disease which killed 7 humans in New York. They also identified it in horses and mosquitoes.

Since the initial discovery of the virus it spread with remarkable rapidity throughout the USA. In 2001, 738 horses were known to have contracted the disease. It is now present in almost all of the States in North America and Canada and, during 2002, over 3,500 human and 13,000 equine cases were confirmed. The reason for such a rapid spread is thought to be that it infects some species of migratory birds that travel long distances.

Could this disease spread to New Zealand? Obviously the answer is yes! The most likely entry would be through migratory birds or mosquitoes. There is very little likelihood of it being introduced through horses. In fact, in Australia, last year a horse imported from America was found to have WNV in quarantine after arrival. After a period of time it was released into Australia as it was considered to pose no risk to their horse or human population.

The virus is transmitted by mosquitoes which become infected when they bite infected birds. Such infected mosquitoes can then spread the disease to humans and horses. However, because the levels of virus in the blood of infected humans and horses are so low, when non-infected mosquitoes bite them these mosquitoes do not become infected. The disease cannot be spread from human to human or horse to horse or, for that matter, from human to horse or visa versa.

In horses, the virus causes a very serious brain disease and about 25% to 40% of infected horses die. The clinical signs of the disease, in horses, include ataxia (stumbling and incoordination), depression, weakness of limbs, partial paralysis, muscle twitching, and death. Occasionally, a fever is observed. A vaccine has been produced and is in use in many states of America. Whilst, at the time of writing, its effectiveness is being evaluated, vaccinating against WNV and considering horses with neurological signs of disease as potential WNV cases has become everyday practice for US veterinarians.

Measures to prevent horses from being bitten by infected mosquitoes are recommended. These include ensuring there are no areas of stagnant water near them; keeping them indoors during peak periods of mosquito activity; screening stalls; avoiding turning on lights in the stables; using electric "bug zappers"; and using effective insect repellants.