

# New and improved test for West Nile virus in horses

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A new test for West Nile virus in horses that could be modified for use on humans and wildlife may help track the spread of the disease, according to an article in the September issue of the *Journal of Medical Microbiology*.

West Nile virus infects a wide range of animals, including humans, horses, dogs, cats, bats, squirrels, rabbits and birds. It is widely distributed in Africa, the Middle East and Europe. It was first reported in North America in 1999, when there were human fatalities in New York City. Since its arrival in the USA it has spread rapidly across the continent. The virus sometimes causes swelling of the brain, or encephalitis, which can be fatal. It is transmitted by several species of mosquito. Because the mosquitoes feed on so many different creatures the virus spreads quickly in areas where it has been introduced.

"Thousands of cases of West Nile virus have been reported worldwide, but 80% of infected people don't show any symptoms," said Dr Louis A Magnarelli, Director of The Connecticut Agricultural Experiment Station in the USA. "It is important to have highly sensitive and specific tests to diagnose infections and also to help track the ecology and epidemiology of West Nile encephalitis."

The US researchers have found that a new test designed to detect antibodies produced by horses is highly effective at diagnosing West Nile virus infections. Compared to the standard test for West Nile virus, the new test is much faster and gives accurate results. It was also useful

in confirming past infections.

"Although the methods developed are for diagnosing West Nile virus in horses, the procedures can be easily modified to develop new antibody tests for humans and wildlife," said Dr Magnarelli. "It is essential to test wildlife for infection to determine the ecological and epidemiological aspects of West Nile virus infections in nature so that we can try to control the disease by managing mosquito populations."

Diagnosing West Nile encephalitis in ill horses helps to identify areas where the virus is spreading and to make decisions about vaccinating horses. Laboratory diagnosis can also clarify the cause of undiagnosed neurological disorders.

"We tested 43 privately owned horses for the infection. The results showed that none of the horses with undiagnosed illnesses had been infected prior to the 1999 outbreak of West Nile virus in Connecticut, USA," said Dr Magnarelli. "This kind of information is useful in confirming the epidemiology of the virus; determining when it arrived in certain areas and how it spreads."

Source: Society for General Microbiology

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