Question: Does West Nile Virus affect cattle and if so, how?

Answer: To date, the only way that the West Nile virus affects cattle is that in areas of high prevalence we occasionally find cows with antibody titers, specific to the virus, in the bloodstream. This is indicative of an immune response to exposure or infection with West Nile. None of these cows have shown any evidence of illness or clinical disease. It remains extremely unlikely that this virus would be the cause of sickness or neurological dysfunction in the bovine species.

West Nile Fever was first identified in the United States in 1999. As with other viral encephalidities, birds are the reservoir hosts and mosquitoes are the vector transmitting it from birds to mammals in pursuit of blood meals from each. Horses and humans are the most likely mammals to show signs of disease which range from flu-like symptoms of lethargy, weakness, muscle stiffness, malaise and loss of appetite to neurological signs of encephalitis (inflammation of the brain). The latter might include incoordination, stumbling, staggering, abnormal posture, disorientation, muscle twitching, seizures, paralysis, coma, and death. Infections with West Nile virus have been documented in other mammals with evidence of illness including cats, dogs, sheep, goats, bats, llamas, wolves, and rodents. To the best of our knowledge mammals are dead-end hosts, meaning that they do not transmit the virus to each other. Infection only occurs via the mosquito which must gather the virus from a bird and inject it into a mammal.

When evaluating a cow with signs of general lethargy or neurological impairment, West Nile Fever remains very low on the diagnostic list. Be that as it may, any evidence of neurological disease in cattle should be seriously considered. While relatively uncommon, diseases that damage the nervous system of cows produce symptoms that all tend to look the same. Veterinarians try to sort them out based on subtle differences in clinical signs and historical data of exposure and progression of the disease. Laboratory support for a diagnosis is often too little or too late, yet remains essential in some cases. Because rabies, mad cow disease, pregnancy toxemia, listeriosis, tetanus, poisoning, botulism, meningitis, grass tetany, encephalitis etc. all share some symptoms, prudence dictates that you isolate the animal, prevent exposure of body fluids to yourself and others, and contact your veterinarian. Neurological signs that should trigger a “red flag” include change of behavior, apprehension, aggression, vocalization, abnormal gait, staggering, stumbling, head tilt, circling, muscle twitching, blindness, weakness, paralysis, inability to swallow, excessive salivation, abnormal posture, hypersensitivity to stimuli, and recumbancy. Terminal cases are commonly preceded by seizures and coma.