



# West Nile Fever

## Case Definition

### (Notifiable)

#### 1. Clinical Signs

**1.1 Clinical Signs:** West Nile Fever (WNV) is a zoonotic mosquito-borne viral disease caused by the West Nile virus (WNV), a *Flavivirus* of the family *Flaviviridae*. Many vertebrate species are susceptible to natural WNV infection; however, fatal neurological outbreaks have only been documented in equids, humans, geese, wild birds (particularly corvids), squirrels, farmed alligators, and dogs. Birds serve as the natural host reservoir of WNV. The incubation period is estimated to be three to 15 days in horses

Ten to 39 percent of unvaccinated horses infected with WNV will develop clinical signs. Most clinically affected horses exhibit neurological signs such as ataxia (including stumbling, staggering, wobbly gait, or incoordination) or at least two of the following: circling, hind limb weakness, recumbency or inability to stand (or both), multiple limb paralysis, muscle fasciculation, proprioceptive deficits, altered mental status, blindness, lip droop/paralysis, teeth grinding. Behavioral changes including somnolence, listlessness, apprehension, or periods of hyperexcitability may occur. Other common clinical signs include colic, lameness, anorexia, and fever.

#### 2. Laboratory criteria:

**2.1 Agent isolation and identification:** The virus can be identified by polymerase chain reaction (PCR) and virus isolation (VI). Preferred tissues from equids are brain or spinal cord.

**2.2 Serology:** Antibody titers can be identified in paired serum samples by IgM and IgG capture enzyme linked immunosorbent assay (ELISA), plaque reduction neutralization test (PRNT), and virus neutralization (VN). Only a single serum sample is required for IgM capture ELISA, and this is the preferred serologic test in live animals. For paired serum samples, the first serum should be drawn as soon as possible after onset of clinical signs and the second drawn at least 14 days post-onset.

#### 3. Case definition and Reporting Criteria

**3.1 Presumptive positive case:** An animal with clinical signs, history, or epidemiology consistent with WNV that has neutralizing serum antibodies as detected by PRNT without history of prior WNV vaccination

**3.2 Confirmed positive case:** A presumptive positive case with isolation of WNV from, or demonstration of specific viral antigen in, tissue, blood cerebrospinal fluid, or other body fluid; OR detection of IgM antibody against WNV by IgM-capture ELISA in serum (dilution dependent upon specific test used); OR an associated fourfold or greater change in IgG-capture ELISA or plaque-reduction neutralization test (PRNT) antibody titer to WNV in

appropriately timed, paired serum specimens from an equid that is unvaccinated against WNV

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