West Nile Virus (WNV)

Disease Name: West Nile Virus, WNV, or West Nile Encephalomyelitis

Disease Type: Viral

Transmission: Vector borne. This virus is transmitted by mosquitoes. Birds act as reservoirs for the virus; feeding mosquitoes, via a blood meal, then carry the pathogen from infected birds and transmit it to horses when they bite. **Frequency:** Low

Incubation period: 7 to 10 days

Carrier status: Infected horses are not contagious; thus, they cannot transmit the disease to other horses, birds, or humans. The virus can only be transmitted to a horse via its vector (mosquitoes).

Shedding period: None.

Severity: Medium. Up to 40% of infected horses are euthanized or die as a result of infection (Source).

Clinical signs and symptoms:

- Depression and anorexia without fever when initially infected
- Mild low-grade fever (101.5-103.5°F or 38.6-39.7°C) in about 25% of affected horses
- Lack of appetite
- Lethargy/drowsiness
- Neurologic signs- Onset of neurologic disease is frequently sudden and progressive
    - Periods of hyperexcitability, apprehension and/or drowsiness
    - Fine tremors and fasciculations of the face and neck muscles
    - Cranial nerve deficits --e.g.Head tilt, facial paralysis (droopy lip, facial deviation) and weakness of the tongue
    - Weakness, ataxia, and dysmetria (incoordination) in one or all limbs
    - Paralysis of one or more limbs
    - Recumbency (inability to stand)
    - Death

Diagnoses: Diagnosis is made by a veterinarian by serum (a component of whole blood) on ELISA (enzyme-linked immunosorbent assay), by measuring for titers or, less commonly, with CSF (cerebrospinal fluid) on PCR.

Treatment: There is no specific antiviral treatment for West Nile Virus. Supportive care is administered in cases which show clinical signs.

Prognosis: Clinical disease develops in up to 39% of horses which are infected. Some infected horses never show clinical signs of the disease and horses who survive usually make a full recovery. However, up to 40% of infected horses are euthanized or die if they become recumbent (unable to rise).

Prevention: Keep all horses up to date on vaccinations. Initial vaccination is followed in 3 to 6 weeks with a booster; yearly revaccination is recommended after. More frequent boosters (i.e. twice yearly) are recommended in areas with year-round mosquito seasons and in endemic areas. Practice vector management on all properties where horses are kept:

- Use insect repellents, especially at dawn and dusk, making sure to re-apply after rain.
- Keep horses in at night when possible; use fans over the horses and in aisleway;, and/or screens to reduce insect populations within the barn. Eliminate standing water (thus mosquito larvae) e.g. water troughs cleaned monthly, clear clogged gutters, tip wheelbarrows over when not in use, discard old tires, empty wading pools, etc. Stock water tanks or ponds with mosquito-feeding fish.

Biosecurity: There are no recommended biosecurity protocols nor do restrictions need to be placed on affected or recovered animals as they pose no risk of infection to other species . Practice mosquito control management on your facility to reduce risk of transmission

