VERMONT

Agency of Human Services
Department of Health
Vermont Department of Health
280 State Drive
Waterbury, VT 05671

Agency of Agriculture, Food & Markets
116 State Street
Montpelier, VT 05620
www.VermontAgriculture.com

July 15, 2026

RE: Eastern Equine Encephalitis and West Nile Virus Testing in Animals

Dear Vermont Veterinarian,

Vermont recently experienced its highest level of Eastern equine encephalitis virus (EEEV) activity on record. During 2023–2025, EEEV caused the deaths of four horses from Addison, Franklin, and Orleans Counties. West Nile virus (WNV) also continues to pose an ongoing risk to animals and people in Vermont. Both viruses can cause severe illness and death in unvaccinated, susceptible animals, and both are reportable conditions in Vermont.

As mosquito activity increases in late summer and early fall, we ask for your partnership in preventing illness through vaccination, identifying suspected cases, and submitting appropriate specimens for testing. Veterinary reporting and testing are critical to monitoring virus activity and protecting both animal and human health.

Key Requested Actions

- Recommend EEEV and WNV vaccination for susceptible animals.
- Consider EEEV and WNV in susceptible animals with acute neurologic illness.
- Submit appropriate specimens for diagnostic testing.
- Report suspected or confirmed cases.
- Encourage animal owners to take steps to prevent mosquito bites (i.e., reducing standing water, using approved repellents, limiting turnout during peak mosquito hours).

Testing for EEEV and WNV

Every specimen submitted, postmortem or antemortem, helps strengthen Vermont's arbovirus surveillance, improves our understanding of where these viruses are circulating, and allows us to identify and communicate risk more quickly.

Postmortem testing: The Vermont Department of Health offers **free postmortem testing** of brain tissue from highly susceptible species – equids, camelids, and ratites (e.g., emus). We encourage you to use this resource for animals with acute neurologic disease when appropriate.

The Department of Health Laboratory first tests brain tissue from neurologic mammals for rabies. The lab forwards rabies-negative samples to the New Hampshire Public Health Laboratories for EEEV and WNV molecular testing (PCR).

Antemortem testing: If antemortem testing is more appropriate, send serologic specimens to your normal reference laboratory for IgM enzyme-linked immunosorbent assay (ELISA) testing.

Instructions for Sample Submission

1. **Call the Vermont Department of Health (802-863-7240)** before submitting specimens. Be prepared to provide the following information:

    - Date of illness onset
    - Date(s) of specimen collection
    - Address where animal is stabled or housed
    - Vaccination history
    - Travel history
    - Description of clinical illness or neurologic signs
    - Whether humans were exposed to the animal's saliva (e.g., through bites or mucous membranes) for human rabies risk assessment

2. **Send brain tissue samples** to the Vermont Health Department Laboratory according to packaging and shipping instructions for rabies and include these completed forms:

    - Rabies Test Request Form
    - Veterinary Arboviral Test Request Form

About EEE in Animals

EEE is a mosquito-borne viral disease caused by an *Alphavirus* of the family Togaviridae. It causes a progressive neurologic condition in horses and other equids. Alpacas, llamas, and emus are also susceptible to illness. The case fatality rate in affected horses is **75–90%.**

Clinical signs of EEE in horses include:

- fever
- depression
- loss of appetite
- weakness
- ataxia
- chewing movements
- head pressing
- circling
- "sawhorse" stance
- paddling

- seizures
- irritability
- excitability
- blindness
- abnormal sensitivity to light and sound

However, illness in horses can also be peracute, and some die suddenly without showing obvious signs or symptoms.

These signs and symptoms are not unique to EEE. Other conditions to consider include West Nile virus encephalomyelitis, tetanus, rabies, equine herpesvirus-1, equine protozoal myeloencephalitis, and western or Venezuelan equine encephalitis.

In emus, infection typically results in a rapid onset of clinical signs, often resulting in death. Common manifestations include disseminated intravascular coagulation, severe hemorrhagic enterocolitis, and blood-tinged vomitus. Emus develop high levels of viremia, and unlike horses and humans, they may act as a reservoir for the virus. There is evidence that the vaccines available for horses may protect emus and alpacas from EEEV infection.[1, 2]

About WNV in Animals

WNV is a mosquito-borne viral disease caused by a *Flavivirus* of the family Flaviviridae. The incubation period is estimated to be **three to 15 days** for horses. Approximately **10–39%** of unvaccinated infected horses develop clinical illness, and about **33%** of horses showing clinical signs die from infection.

Clinical signs may include:

- Fever
- ataxia
- circling
- hind limb weakness
- recumbency or inability to stand
- teeth grinding
- inability to swallow
- muscle tremors
- head pressing
- excessive sweating
- behavior changes

[1] Tengelsen, LA et al., "Response to and efficacy of vaccination against eastern equine encephalomyelitis virus in emus" JAVMA Vol. 218, No. 9, 2001

[2] Bedenice, D et al. "Humoral response to an equine encephalitis vaccine in healthy alpacas: JAVMA Vol. 234, No. 4, 2009

Other common clinical signs include colic, lameness, anorexia, and fever.

Preventing EEE and WNV

Encourage animal owners to:

- Remove standing water in outdoor items to reduce mosquito breeding habitats (e.g., tires, planters).
- Use screens and fans to keep mosquitoes from entering homes and barns.
- Use EPA-registered mosquito repellants on yourself and approved veterinary products for animals to prevent mosquito bites.
- Talk with your veterinarian about animal vaccine recommendations for these diseases.

Reminder: Animal Cases of EEE and WNV are Reportable

Report suspected or confirmed cases to:

Vermont Agency of Agriculture, Food & Markets State Veterinarian's Office
802-828-2421

Health Department's Infectious Disease Epidemiology Program
802-863-7240

Additional Resources

- Vermont Department of Health: Mosquito-borne Diseases
- Vermont Agency of Agriculture, Food and Markets: Animal Health
- Eastern Equine Encephalitis case definition (PDF)
- West Nile Fever case definition (PDF)

Thank you for partnering with us. Veterinary reporting is often the earliest signal that these viruses are active in an area.

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