

VETERINARY ADVISORY

Animal Health and Welfare Branch/
Office of the Chief Veterinarian
Ministry of Agriculture, Food and Rural Affairs

Veterinary advisory: eastern equine encephalitis (July 28, 2023)

Current situation

On July 28, 2023, the Ministry of Agriculture, Food and Rural Affairs (OMAFRA) was notified of a confirmed case of eastern equine encephalitis (EEE) in an unvaccinated 17-month-old colt in Lanark County. The colt was euthanized after developing a fever (41°C) followed by recumbency and seizures. The colt had no history of travel. Laboratory diagnostic testing confirmed infection with the EEE virus (EEEV).

Horses are a dead-end host for EEEV and, therefore, cannot transmit the virus to humans or other animals. Birds are the natural hosts for EEEV which is transmitted to horses and, in rare cases, to humans by mosquitoes which have bitten an infected bird.

EEEV infection is immediately notifiable by laboratories to the Office of the Chief Veterinarian for Ontario under the *Animal Health Act, 2009*. Attending veterinarians concerned about potential cases of EEEV infection may contact an OMAFRA veterinarian through the Agricultural Information Contact Centre.

Clinical signs of EEE, including circling, head-pressing, ataxia and depression, can mimic a variety of diseases, including:

- Rabies
- West Nile virus (WNV)
- Encephalitis
- botulism
- hepatic encephalopathy
- equine protozoal myeloencephalitis

- equine herpes myeloencephalopathy

Most equine cases of EEE in Ontario occur between the months of August and October and end with the onset of frost.

EEE affects mainly equine species in eastern North America but can rarely cause severe disease in humans. EEEV has also caused fatal infections in pheasants, quail, emus, alpacas, llamas and dogs.

Diagnosis

Veterinarians in Ontario should consider EEE as a differential diagnosis in horses exhibiting neurological signs and can identify positive cases through appropriate testing. IgM antibodies to the EEEV can be detected in serum from horses with neurological signs. As well, RT-PCR testing can be performed on brain tissue if available.

Prevention

Effective equine vaccines for EEE are available and veterinarians should encourage clients to keep their horse's vaccinations current. Once clinical infection develops, treatment options are limited to supportive care. The mortality rate in unvaccinated horses is high.