

## **Eastern Equine Encephalitis Virus – Deer and Moose Testing**

### **What is eastern equine encephalitis (EEE)?**

EEE is a rare disease that is caused by a virus spread by infected mosquitoes. EEE virus (EEEV) is one of a group of mosquito-transmitted viruses that can cause inflammation of the brain (encephalitis). In the United States, approximately 5-10 EEE cases in humans are reported annually. EEEV also causes a severe and often fatal disease in horses.

### **Do we have EEE virus in Vermont?**

Yes. EEE was first detected in Vermont in 2010, when blood collected from deer and moose during hunting season presented evidence of prior EEE infection. Deer and moose from all over the state had evidence of infection. In 2011, EEEV was detected in emus on a Vermont farm. In 2012, two human cases and two horse cases were reported. All of these animal and human cases occurred in one area of the state in northern Rutland and southern Addison Counties. In the summer of 2013 two horses from Franklin County were diagnosed with EEE.

### **How is EEE virus transmitted?**

EEEV is maintained in a cycle between *Culiseta melanura* mosquitoes and birds in freshwater hardwood swamps. *Cs. melanura* mostly bite birds and are unlikely to bite humans and horses. Transmission to humans and horses requires mosquito species capable of creating a "bridge" between infected birds and uninfected mammals such as some *Aedes*, *Cophillettidia*, and *Culex* species.

### **Why are deer being tested for EEE virus?**

Deer and moose are being tested to help us understand the distribution of EEE virus in Vermont. Deer are good for this purpose because they get bitten by a lot of mosquitoes, the EEE virus does not usually make them ill, and if infected, they develop antibodies that we can test for. In addition, because deer have a relatively limited summer range, the likely area of exposure can be determined. Testing deer and moose blood may help us determine if there is a risk to humans and horses that live in other parts of the state.

### **If my deer tests positive, can I get sick?**

No. Deer and moose that test positive do not pose a risk to humans. In fact, the test results may not be available for several months, and individual test results cannot be reported back to each hunter. However, the meat is perfectly safe to eat.

### **How do I prevent infection with EEE virus?**

Reducing exposure to mosquitoes is the best defense against infection with EEEV and other mosquito-borne viruses. There are several approaches you and your family can use to prevent and control mosquito-borne diseases.

- **Use repellent:** When outdoors, use insect repellent containing DEET, picaridin, IR3535 or oil of lemon eucalyptus on exposed skin and/or clothing. The repellent/insecticide permethrin can be used on clothing to protect through several washes. Always follow the directions on the package.
- **Wear protective clothing:** Wear long sleeves and pants when weather permits.
- **Install and repair screens.**
- **Keep mosquitoes from laying eggs near you:** Get rid of mosquito breeding sites by emptying standing water from flower pots, buckets, barrels, and tires. Change the water in pet dishes and replace the water in bird baths weekly. Drill holes in tire swings so water drains out. Empty children's wading pools and store on their side after use.

#### **For more information:**

Vermont Department of Health: [http://healthvermont.gov/prevent/wnv/wnv\\_data.aspx](http://healthvermont.gov/prevent/wnv/wnv_data.aspx)

Vermont Agency of Agriculture:

<http://www.vermontagriculture.com/ARMES/plantindustry/entomology/mosquito/index.html>

Centers for Disease Control: <http://www.cdc.gov/ncidod/dvbid/arbor/arbdet.htm>

Telephone: 802-863-7240 (Department of Health) or 802-241-3545 (Agency of Agriculture)