



State and county agencies watch animal and mosquito populations closely for arboviruses. Mosquito control activities are increased when a virus is found and mosquito populations are large. More press releases and public education activities are done to remind people to protect themselves against mosquito bites. To see the latest press releases, select DOH A-Z Topics then “Mosquito-borne Illnesses” and then “Press Releases” on the Department of Health’s website at www.doh.state.fl.us.

Dead birds may be an indicator that WN is in your area. Please report dead birds on the internet at www.myfwc.com/bird or call your county health department or local Fish and Wildlife Conservation Commission office.



For more information call:

For any questions about pesticides, call Pesticide Surveillance at
1-800-606-5810

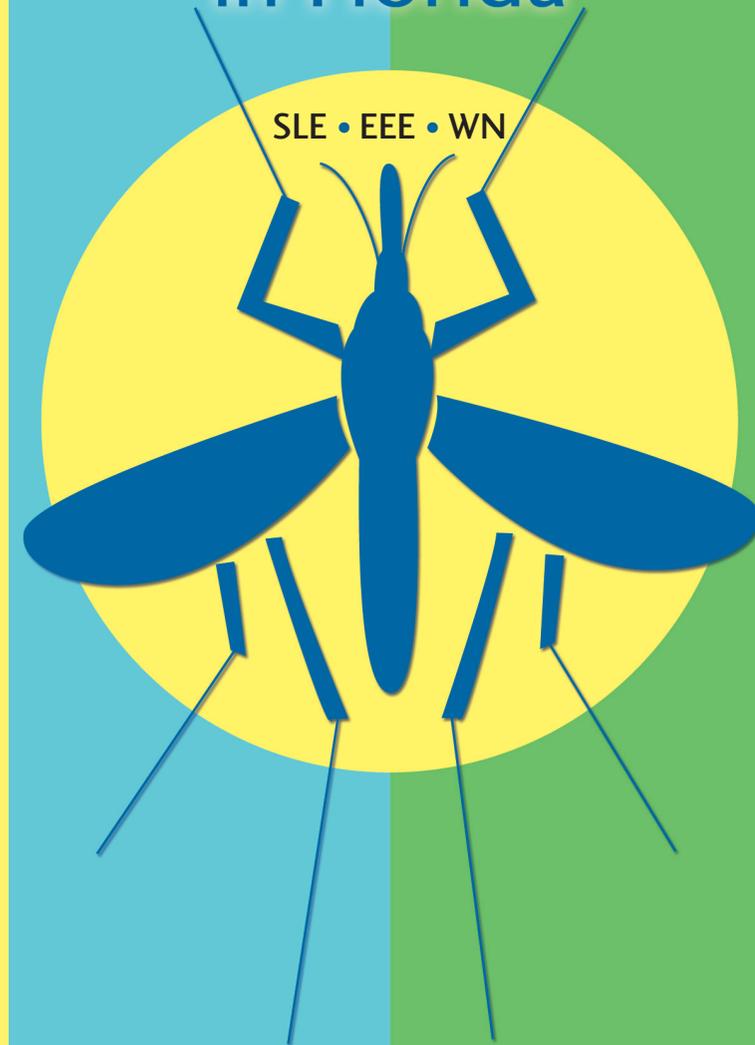
Florida Department of Health

Division of Disease Control and Health Protection,
Bureau of Epidemiology

www.myfloridaeh.com/medicine/index.html
850-245-4401

DH 150-753, 6/13

Mosquito-borne Disease in Florida



A virus is a very small organism.



Viruses that are carried by mosquitoes are called arboviruses. Many arboviruses cause encephalitis, a swelling of the brain. Arboviruses that cause encephalitis in Florida are Eastern equine encephalitis (EEE) virus, West Nile (WN) virus and St. Louis encephalitis (SLE). Interestingly, SLEV activity in Florida has decreased dramatically since WNV was first detected in the state in 2001.

Symptoms

Many people infected with an arbovirus may not even get sick. For the small number who do become ill, it may take from two to 14 days after the bite of an infected mosquito before they become sick. Symptoms may include high fever, headache, fatigue, dizziness, weakness and confusion. WN may also cause rash or muscle weakness. People 50 and older are more likely to develop brain swelling from SLE or WN virus infections. Anyone infected with EEE virus may develop brain swelling, but children are most likely to become ill. People with fever and a bad or unusual headache should see a doctor as soon as possible. The doctor may need to order laboratory testing to see if an arbovirus caused the illness. Although there is no cure for arboviruses, symptoms can be treated. Treatment is important. People with a severe arbovirus illness might go into a coma or die because of brain swelling.

Prevention is the key

At this time, there are no vaccines available to protect people from arboviruses. The best way to reduce the risk of getting ill is to avoid getting mosquito bites by practicing the 'Drain and Cover' prevention message below.

DRAIN and COVER

- **DRAIN** standing water to stop mosquitoes from multiplying
- Drain water from garbage cans, house gutters, buckets, pool covers, coolers, toys, flower pots or any other containers where sprinkler or rain water has collected.
- Discard old tires, drums, bottles, cans, pots and pans, broken appliances and other items that aren't being used.
- Empty and clean birdbaths and pet's water bowls at least once or twice a week.
- Protect boats and vehicles from rain with tarps that don't accumulate water.
- Maintain swimming pools and keep appropriately chlorinated. Empty plastic swimming pools when not in use.

COVER skin with clothing or repellent

- **CLOTHING** Wear shoes, socks, and long pants and long-sleeves. This type of protection may be necessary for people who must work in areas where mosquitoes are present.
- **REPELLENT** Apply mosquito repellent to bare skin and clothing.
- Always use repellents according to the label. Repellents with DEET, picaridin, oil of lemon eucalyptus, and IR3535 are effective.
- Use mosquito netting to protect children younger than 2 months old.

COVER doors and windows with screens to keep mosquitoes out of your house

- Repair broken screening on windows, doors, porches, and patios.

Repellent information

- Always read label directions carefully for the approved usage before applying a repellent to skin. Some repellents are not suitable for children.
- Products with concentrations of up to 30 percent DEET are generally recommended. Other EPA-approved repellents contain picaridin, oil of lemon eucalyptus, or IR3535. These products are generally available at local pharmacies. Look for active ingredients to be listed on the product label.
- Apply insect repellent to exposed skin or onto clothing, but not under clothing.
- In protecting children, read label instructions to be sure the repellent is age-appropriate. According to the CDC, mosquito repellents containing oil of lemon eucalyptus should not be used on children under the age of 3 years. DEET is not recommended on children younger than 2 months old.
- Infants should be kept indoors or mosquito netting should be used over carriers when mosquitoes are present.
- If additional protection is necessary, apply a permethrin repellent directly to your clothing. Again, always follow the manufacturer's directions.

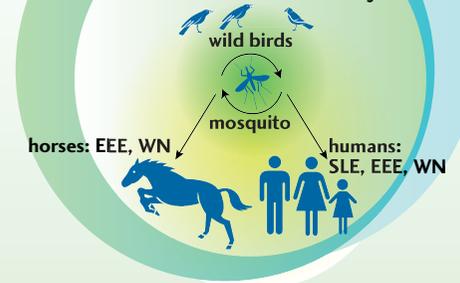
For more information, see the CDC's guidelines: http://www.cdc.gov/ncidod/dvbid/westnile/qa/insect_repellent.htm or EPA guidelines: <http://cfpub.epa.gov/oppref/insect/>

Rid the wrigglers—lose the larvae

Mosquitoes lay their eggs where there is moisture. It takes only a few days for an egg to grow into an adult mosquito, which can live for several weeks. During that time, an adult female mosquito can lay many eggs. In order to produce eggs, the adult female seeks a host (such as a bird, a horse, or a human) to provide a blood meal. Some types of mosquitoes can fly two miles from their breeding sites (even further if blown by the wind). Elimination of mosquito breeding sites is one of the keys to prevention.

- Remove standing water in old tires, buckets, garbage cans or any other containers.
- Clean out gutters. Check flat roofs that may have poor drainage.
- Cover barrels and trash containers tightly with a lid or with a fine mesh screening material.
- Empty plastic wading pools at least once a week. Store them indoors when not in use.
- Change the water in bird baths and pets' water bowls at least once a week.
- Empty the water in plant pots at least once a week.
- Turn over or remove empty plastic pots.
- Remove old tires or drill holes in those used in playgrounds to drain.

SLE, EEE, WN Virus Transmission Cycle



- Level the ground around your home so water can run off.
- Fill in holes or depressions near your home that collect water.
- Pick up all beverage containers and cups.
- Store boats covered or upside down.
- Check tarps on boats or other equipment that may collect water.
- Pump out bilges on boats.
- Treat standing water with products that kill mosquito larvae. These are available at home improvement stores and garden centers.
- Fill in tree holes and hollow stumps that hold water.
- Stock your water garden with mosquito-eating fish like minnows, gambusia, goldfish or guppies.
- Remove vegetation or blockages in drainage ditches so that water can flow through.
- Repair screening on windows, doors, porches and patios.

“Zappers”

Some gadgets intended to work as mosquito control methods do not do a very good job. For example, “bug zappers” do not work well to control biting mosquitoes. They may actually attract more mosquitoes into your yard, and they kill beneficial insects as well. Various birds and bats will eat mosquitoes, but there is little evidence that this cuts down on the number of mosquitoes around homes. Electronic mosquito devices don't stop mosquitoes from biting people either.

Transmission and surveillance

SLE, EEE and WN viruses pass back and forth between birds and mosquitoes. State and local agencies keep a close watch on mosquito populations. In many areas, mosquito control agencies and county health departments also keep chicken flocks, called sentinel chickens. The blood of these chickens is sampled for signs of arboviruses. Chickens make good sentinels because they do not get sick from arboviruses. People cannot catch an arbovirus from the chickens. Horses can get encephalitis from the EEE and WN virus. Sick horses are often the first indicator that an arbovirus is in an area. Yet another sign of the presence of WN virus are dead birds. Please report dead birds on the internet site www.wildflorida.org/bird/ or call your county health department or local Fish and Wildlife Conservation Commission office.