

# SAMPSON COUNTY HEALTH DEPARTMENT

Wanda Robinson  
Health Director



360 County Complex Road, Suite 200  
Clinton NC 28328

## **Case of Eastern Equine Encephalitis (EEE) Identified in a Sampson County Horse**

A case of Eastern Equine Encephalitis (EEE) has recently been identified in a horse in Sampson County, indicating that humans in the area are also at risk from this mosquito-borne disease. This is the second identified case of EEE in a horse this year in North Carolina. The horse was not vaccinated against EEE.

The 1-year-old horse was euthanized following a rapid onset of disease. EEE is a rare disease in both horses and humans, but is one of the most severe mosquito-borne diseases transmitted in the United States, with approximately 33% mortality in humans, and significant brain damage in those that survive.

In North Carolina, it is more common in the eastern part of the state than in other areas. The virus cycles, usually in freshwater hardwood swamps, between wild birds and a local species of bird-feeding mosquito. This mosquito prefers to bite birds rather than mammals. Humans and horses are occasionally infected when mammal-preferring species of mosquito happens to bite an EEE-infected bird, then transfers the virus to a horse or human.

Symptoms in people develop from 4 to 10 days after being bitten by an infected mosquito. Infection can result in one of two forms -- systemic or encephalitic. The less serious systemic form is characterized by a rapid onset of chills, fever, headache, and joint/muscle pain which lasts for 1 to 2 weeks, followed by complete recovery. The encephalitic form progresses into additional symptoms such as irritability, restlessness, drowsiness, anorexia, vomiting, diarrhea, a bluish tinge to the skin, convulsions, and even coma. Survivors of this serious form of EEE may suffer from long-term effects to the nervous system. Persons under age 15 and over age 50 are at greatest risk of developing severe disease.

Symptoms in horses generally develop 9-11 days after infection. Most horses become laterally recumbent within 12–18 hr of onset of neurologic abnormalities. Death generally occurs within 2–3 days after the onset of signs.

There is a vaccine for horses but not for humans. Therapy is limited to treating the symptoms of the disease, but there is no specific cure. The American Association of Equine Practitioners recommends vaccination against EEE as a part of a core vaccination protocol: <https://aaep.org/guidelines/vaccination-guidelines/core-vaccination-guidelines>

# SAMPSON COUNTY HEALTH DEPARTMENT

Wanda Robinson  
Health Director



360 County Complex Road, Suite 200  
Clinton NC 28328

While there is no vaccine to protect humans from EEE, humans can protect themselves with repellents and by judicious suppression of mosquito populations, especially in areas near freshwater hardwood swamps.

The health department advises the public to remain diligent in their personal mosquito protection efforts. These efforts should include the “5 D’s” for prevention:

- Dusk and Dawn – Minimize time outdoors when mosquitoes are seeking blood. The common species that transmit EEE to humans often bite at just before or after sunset.
- Dress – Wear loose, light-colored clothing that covers most of your skin.
- DEET – When the potential exists for exposure to mosquitoes, repellents containing DEET (N,N-diethyl-meta-toluamide,) are recommended. Picaridin and oil of lemon eucalyptus are other repellent options. See [www.epa.gov/insect-repellents](http://www.epa.gov/insect-repellents) for options.
- Drainage – Check around your home to rid the area of standing water, which is where mosquitoes can lay their eggs. Dispose of any tires. Tires can breed thousands of mosquitoes.
  - Drill holes in the bottom of recycling containers.
  - Clear roof gutters of debris.
  - Clean pet water dishes regularly.
  - Check and empty children’s toys.
  - Repair leaky outdoor faucets.
  - Change the water in bird baths at least once a week.
  - Turn over Canoes and other boats, or treat them with approved larvicides.
  - Avoid water collecting on pool covers.
  - Empty water collected in tarps around the yard or on woodpiles.
  - Plug or fill tree holes.
  - Add minnows to isolated water such as rain barrels and ornamental ponds
  - Repair leaky outdoor faucets and change the water in bird baths and pet bowls at least twice a week;
  - Use screened windows and doors and make sure screens fit tightly and are not torn.
  - Keep tight-fitting screens or lids on rain barrels.
  - Even the smallest of containers can breed hundreds to thousands of mosquitoes. They don’t need much water to lay their eggs. (bottles, barrels, buckets, overturned garbage can lids, etc.)

If you have specific questions pertaining to your horse and EEE please consult your veterinarian or the NCDA&CS at 919-733-7601. Recently NCDA&CS stressed the

# SAMPSON COUNTY HEALTH DEPARTMENT

Wanda Robinson  
Health Director



360 County Complex Road, Suite 200  
Clinton NC 28328

importance of vaccination for horses: <http://www.ncagr.gov/paffairs/release/2010/6-10Equinevaccinations.htm>.

For specific questions regarding mosquito control and prevention, contact the Sampson County Environmental Health Department at 910-592-1131