

Date: July 2008
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2008 EEE ALERT

On July 3rd of this year, I received an official notification from the state of Florida that they have had 45 statewide cases of Eastern Equine Encephalitis [EEE] so far this year. This six month report [January through June] of 45 cases of EEE in Florida is a significant increase over the reported 11 cases for the first six month period of both 2007 and 2006. In posting this alert, Florida's state agricultural officials are warning Florida horse owners that there are four times more cases of EEE this year than the same period last year. EEE spreads through mosquito bites, and the Florida agricultural officials noted that after two years of drought, mosquitoes are prospering in this year's rainy weather.

EEE is one of four recognized mosquito spread viral encephalitis's [brain infections] reported in the horse in our area. Rabies is yet a fifth viral encephalitis that occurs in the horse in our area, but Rabies is not spread by the mosquito. It is important to note that all five of these viral encephalitis's can infect man as well. EEE was first reported in a Massachusetts's horse in 1831; the first reported human case was also reported out of Massachusetts in 1838. Today's distribution of the EEE virus is spread from eastern Canada to the Caribbean, and on into Central and South America. The EEE virus is perpetuated in the bird population, generally considered prevalent in the migratory songbird [perching birds] population. The majority of songbirds do migrate, many coming to Delaware from their winter homes in Florida. EEE and Venezuelan Equine Encephalitis [VEE...currently found only in Central and South America] are considered to be the most neuroinvasive of the mosquito viral encephalitis; that is, comparing the viral brain infections caused by the viruses EEE, VEE, WEE [Western Equine Encephalitis], and WNV [West Nile Virus]. The term neuroinvasive means the ability of the virus to invade the nervous system. Because EEE is so neuroinvasive, the case fatality rate is always quite high. For example, all of the horses in the 45 cases reported this spring in Florida died. That is high, a 100% mortality rate; the medical literature reports a 90% case fatality rate for EEE infection. WNV case fatality on the other hand, is generally accepted to be around 33%; i.e. approximately 1/3 of the horses getting a WNV infection can be expected to die from the WNV infection.

EEE virus, like the other mosquito spread viral brain infections, affects a horse's central nervous system [CNS]. The CNS involvement is principally the brain, with the spinal cord being mildly affected. Signs of EEE include [but are not limited to] fever, a tired acting horse, dull, stumbling, circling, and in advanced stages...coma. Because signs of the mosquito spread brain infections are so similar, it is almost impossible to differentiate one from the other clinically. Laboratory testing will be required in all cases. Rabies in the horse can clinically be

indistinguishable from the mosquito spread viral brain infections as well, a fact that intensely provokes initiating preventive measures.

Control is straightforward...*vaccination*. EEE vaccination is highly effectual and I consider it an animal welfare matter for one to own a horse and not keep it vaccinated against these common and highly preventable diseases like EEE. I would not make such a strong statement about some of the other equine diseases that have vaccines available. But, the EEE vaccine is universally regarded as being highly effective, extremely safe to the horse, and quite affordable. It is noteworthy to mention, Florida's agricultural department reported that most of the 45 horses infected with EEE this spring had not been current in vaccination protection against EEE. The few horses that were vaccinated for EEE had been vaccinated just days prior to their death, but probably after they had gotten the EEE infection.

Other management control methods to augment our preventive vaccination programs are as follows: eliminating mosquito breeding areas...standing water etc., bringing horses inside when mosquitoes are feeding [dawn and dusk], mosquito repellent applications, window screens, and fans to drive mosquitoes out of the barn. We live in mosquito alley here in Delaware, and likewise enjoy a full and wide variety of songbirds. I phoned our Delaware State Veterinarian, Dr. Caroline Hughes, and as of today [July 9, 2008] she reported no cases of EEE in Delaware for 2008. But she agrees all elements are in place for a Delaware EEE case: horses, songbirds, and mosquitoes...vaccinate your horses she concludes.

On my web site, I have an extension bulletin outlining recommended 2008 vaccinations for horses. Additionally, I have posted extension fact sheet bulletins on mosquito control and fact sheet bulletins on some of the other viral encephalitis's found in horses. If you do not have internet access, you can contact your county extension office or my office, and we would be happy to mail out requested bulletins.

My web site is: <http://ag.udel.edu/anfs/faculty/Dr.Marshall.htm>

Thank you and please vaccinate you horse against EEE...now is the time...and while you are vaccinating your horse against EEE, make certain your horse is properly protected through vaccination against the other viral encephalitis's endemic in our area: WEE, WNV, and Rabies.