

Eastern Equine Encephalitis Virus Reemergence in Connecticut

Eastern equine encephalitis (EEE) virus was first discovered in Connecticut during the 1930's but disease outbreaks were sporadic and restricted to horses and domestic pheasants until very recently. The first documented human case was contracted in Connecticut during the 2013 transmission season. This occurred during a season of intense virus activity that included 58 EEE virus positive mosquito pools, an equine case, and die-offs of pheasant flocks. In this presentation, we review data from surveillance programs and research investigations to identify critical factors that enhance virus transmission and risk of human infection in this region of the U.S. Underlying factors that initiate and sustain EEE virus transmission include: 1) local overwintering of virus supplemented by periodic virus reintroduction from southern regions, 2) mosquito vector abundance that drives viral amplification and spillover into human and equine populations, 3) mosquito-avian interactions that favor amplification, and 4) virus titers in primary and secondary mosquito vectors.