The Connecticut Agricultural Experiment Station

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PRESS RELEASE

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Study assesses areas at greater risk for Lyme disease in Connecticut

In a recently published study in the journal *Ticks and Tick-Borne Diseases,* a team of researchers at The Connecticut Agricultural Experiment Station found a strong relationship between the prevalence rate of *Borrelia burgdorferi*, the agent that causes Lyme disease, in nymphal ticks submitted by state residents for testing, and the subsequent incidence of Lyme disease in humans across the state.

The findings were based on analysis of more than 30,000 blacklegged (deer) tick (*Ixodes scapularis*) submissions by state residents to the Connecticut Agricultural Experiment Station's Tick Testing Laboratory over the past 20 years.

"The primary aim of this study was to determine if passively collected data on human-biting ticks in Connecticut could serve as a useful proxy for Lyme disease incidence based on cases reported to the Connecticut Department of Public Health," said Dr. Goudarz Molaei, a research scientist and senior author on the paper who also directs the CAES Tick Testing Program.

Analysis by Dr. Eliza Little, a postdoctoral scientist at the CAES also found that while residents in densely populated counties of Fairfield and New Haven submitted the highest number of ticks, the prevalence of infected ticks was greater in the least populated counties of Windham, Tolland, and New London, where the incidence of Lyme disease was also highest.

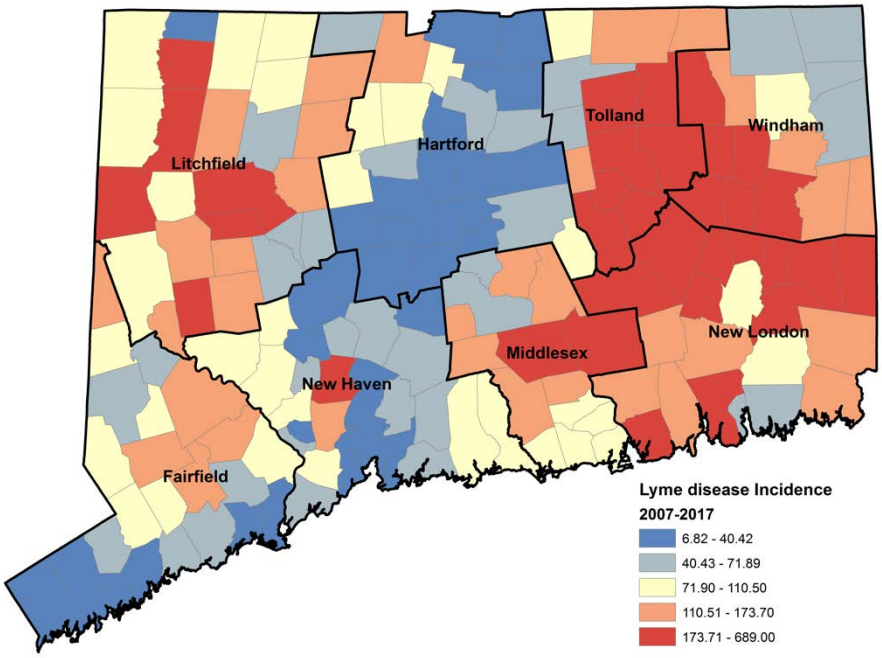
Annual infection rates in nymphal ticks ranged from 15% to 41% with a twenty year average of 21%, while infection rates in adult ticks ranged from 27% to 39% percent with annul mean of 33%.

"The results of this study underscore the value of our state-supported Tick Testing Program which is highly predictive of Lyme disease incidence for each town or county and may effectively be used to guide

informed decisions concerning prevention and treatment of tick-borne diseases" said Dr. Theodore Andreadis, Director of CAES.

"We are currently in the midst of the peak activity season for adult blacklegged (deer) ticks, and nearing the season for increased nymphal activity, which are often more difficult to detect because of their small size and propensity to quickly attach and feed", said Dr. Molaei. "Reducing exposure to ticks by using tick repellants when hiking or camping and conducting tick checks remain the best defense against Lyme disease and other tick-borne infections" added Dr. Molaei.

According to the Centers for Disease Control and Prevention (CDC), Lyme disease is the most commonly reported vector-borne disease in the United States that affects an estimated 329,000 people annually, and can cause severe damage to joints and the nervous system. Connecticut is among the 14 states from which nearly 95% of Lyme disease cases in the United States are reported, and it had the 8th highest incidence per 100,000 population (*n* = 2051, number of confirmed and probable cases) in 2017.



Lyme disease incidence. Cumulative (2007–2017) total Lyme disease incidence (per 100,000) broken into quartiles and mapped by town

Detailed information about the Tick Testing Laboratory, personal protection measures, tick control measures, and tick-associated diseases can be found at the following websites:
http://www.ct.gov/caes/cwp/view.asp?a=2837&q=378212&caesNav=|
http://www.cdc.gov/ticks/
http://www.cdc.gov/lyme/
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