



The Connecticut Agricultural Experiment Station

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The CAES TICK TESTING LABORATORY REMAINS OPEN DURING COVID-19 PANDEMIC

New Haven, CT - The Connecticut Agricultural Experiment Station - Tick Testing Laboratory (CAES-TTL) has remained open during the Corona virus pandemic and we remind state residents to be aware of the ongoing risks associated with tick-borne diseases. "Although about 80% of our staff have been working from home since late March, CAES has kept important public health, regulatory and diagnostic programs operational. The Tick Testing Laboratory is one of those critical programs," notes Dr. Jason C. White, CAES Director.

Importantly, it has been shown that people who are exposed to COVID-19 are at increased risk if they have underlying health conditions. Although it is not clear whether infections with tick-borne diseases increase the severity of illness with the novel Corona virus, people should exercise caution and avoid tick encounters while hiking in the woods or enjoying spring in their backyards or parks.

The CAES-TTL has tested ticks for Lyme disease as an important service in protecting the health and well-being of state residents since 1990. Residents should submit ticks to their local health departments for delivery to the Station. Each year, an average of 3,000 ticks are submitted for testing. In 2015, the program was expanded to include testing for two emerging tick-associated pathogens for the first time: *Babesia microti*, the causative agent of babesiosis, and *Anaplasma phagocytophilum*, the causative agent of human granulocytic anaplasmosis.

So far in 2020, the CAES-TTL has received and tested over 1200 tick submissions. In 2019, the laboratory tested 3,517 blacklegged (deer) ticks for evidence of infection. Of these, 35.7% tested positive for *Borrelia burgdorferi* (the causative agent of Lyme disease), 9.4% for *B. microti*, and 8.6% for *A. phagocytophilum*. Coinfections with *B. burgdorferi* and *B. microti* were identified in 5.1%; *B. burgdorferi* and *A. phagocytophilum* in 4.5%; *B. microti* and *A. phagocytophilum* in 1.2%; and with all three pathogens/parasites in 0.9%.

"We are currently in the midst of the peak activity season for adult blacklegged 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. Goudarz Molaei who directs the CAES Passive Tick Surveillance and Testing Program. "Reducing exposure to ticks by avoiding infested areas and using repellants when hiking or camping and

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conducting tick checks remain the best defense against Lyme disease and other tick-borne infections,” added Dr. Molaei.

Ticks and tick-borne diseases are increasingly becoming a major public health concern. In the United States, the number of reported cases of tick-borne diseases has more than doubled between 2004 and 2016, and according to the Centers for Disease Control and Prevention (CDC), over 80% of the nationally notifiable vector-borne disease cases are transmitted by ticks. Lyme disease is the most commonly reported vector-borne disease in the United States and 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 7th highest incidence per 100,000 population ($n = 1859$, number of confirmed and probable cases) in 2018.

Infection and Co-infection of Blacklegged Tick with pathogens responsible for Lyme Disease, Anaplasmosis, and Babesiosis in Connecticut, 2015-2019

Pathogen	Percentage of Blacklegged Ticks Infected (%)
<i>Borrelia burgdorferi</i>	33.3
<i>Babesia microti</i>	8.7
<i>Anaplasma phagocytophilum</i>	7.4
<i>B. burgdorferi</i> + <i>B. microti</i>	4.0
<i>B. burgdorferi</i> + <i>A. phagocytophilum</i>	3.7
<i>B. microti</i> + <i>A. phagocytophilum</i>	0.8
<i>B. burgdorferi</i> + <i>B. microti</i> + <i>A. phagocytophilum</i>	0.6

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/> <http://www.cdc.gov/anaplasmosis/> <http://www.cdc.gov/parasites/babesiosis/>

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