



The Connecticut Agricultural Experiment Station

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Environment Committee Presentation

March 10, 2008

Good morning Senator Meyer, Representative Roy, and other members of the Environment Committee. My name is Kirby Stafford. I am the Vice Director of The Connecticut Agricultural Experiment Station (CAES) and State Entomologist. I am here to provide supporting information for Raised Bill No. 5852, An Act Concerning the Control of Lyme Disease. My own research for the past 20 years has largely focused on the control of the blacklegged tick, *Ixodes scapularis*, commonly known as the deer tick that is responsible for the transmission of the pathogens that cause Lyme disease, granulocytic anaplasmosis, and human babesiosis in Connecticut and elsewhere.

Connecticut continues to have among the highest attack rates of Lyme disease in the country. Ticks are prevalent. In the summer of 2007, CAES identified 954 nymphal blacklegged ticks for health departments and tested 640 of them for the presence of the Lyme disease bacterium - 36.8% (228) were positive. Many aspects on the cause and prevention of Lyme disease are covered in my Tick Management Handbook, which has been revised and reprinted with the support of the General Assembly as well as personnel in the Office of Policy and Management. For that, I thank you. It is available for public distribution and it also is available on the Experiment Station's website (www.ct.gov/caes). In addition to research, The CAES works closely with the Department of Public Health, local health departments, and several municipalities on educational outreach related to Lyme disease. However, tick-associated diseases continue to be a public health problem. More could be done.

The emergence of Lyme disease as a public health issue is largely related to landscape changes and the increase in abundance of white-tailed deer. Most female "deer" ticks feed on this animal and deer are the key hosts for tick reproductive success. Other animals support fewer adult ticks and have a relatively small role in tick reproduction.

Consequently, Lyme disease has been the primary impetus for calls to reduce the overabundance of white-tailed deer in Connecticut though these animals also have other environmental and social impacts. Tick control through deer management directly influences tick reproduction. I have studied the impact on tick abundance of deer fencing, deer reductions, and the application of a topical insecticide to deer to kill feeding ticks. All these deer-targeted approaches resulted in a notable or highly significant decrease in numbers of ticks. In my study in Bridgeport and the Bluff Point Coastal Preserve, deer were reduced from around 200 animals per square mile to around 20-30 per square mile. Ticks are still common, but their densities are approximately 10-fold less than before. Other studies have found that areas without deer harbor very few ticks and little or no infection by Lyme disease spirochetes. All these studies in combination, as well as computer models, suggest that a density below 10 to 12 deer per square mile could decrease the tick population to a level that would reduce the burden of Lyme disease in a community. Deer population management is an important tool in any long term strategy to reduce tick abundance and the human incidence of Lyme disease.

I thank you and other members of the Environment Committee for the opportunity to provide you with some information relevant to the Lyme disease issue.

Sincerely,

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