



Permethrin-treated cotton from Tick Tubes significantly reduces density of disease-carrying black-legged tick nymphs.

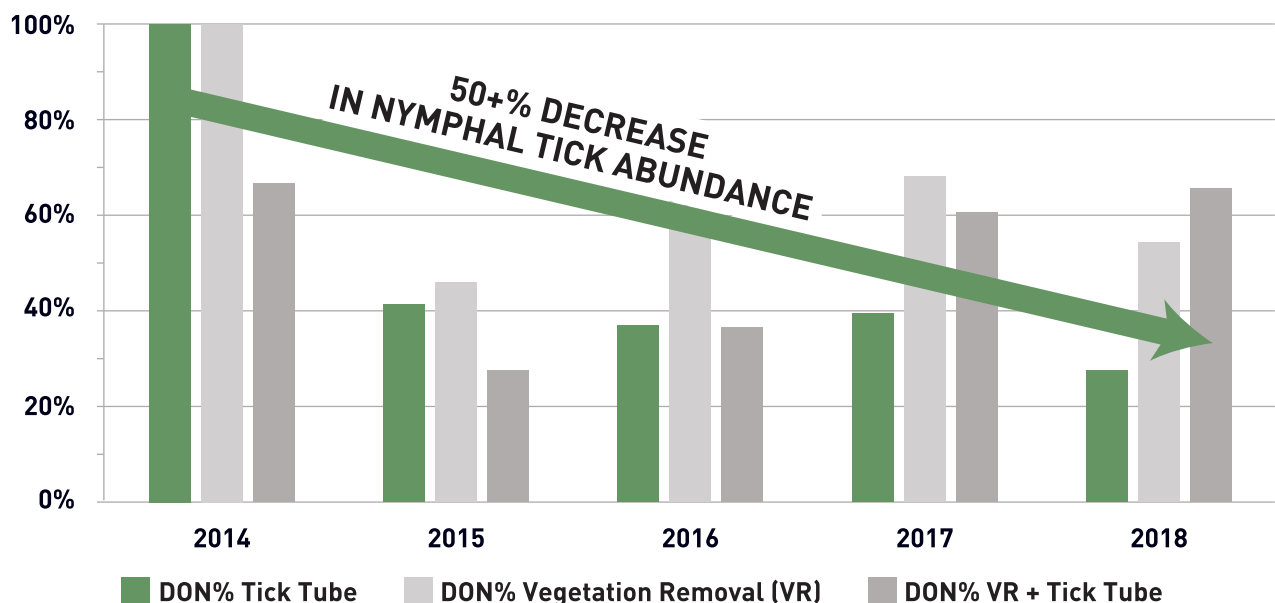
Overview:

Researchers from the University of Wisconsin conducted a 5-year field study in South Central Wisconsin to determine if combining tick tube treatments with invasive vegetation removal resulted in better tick control than either approach alone. As tick-borne diseases rise, better management strategies will be needed to provide protection against tick populations, and this paper shows the benefit of tick tubes as part of an IPM solution.

Approach:

The study took place in areas with reliable populations of white-footed mice (*Peromyscus leucopus*), and researchers conducted drag sampling for the presence of black-legged ticks (*Ixodes scapularis*). Captured ticks were tested for the presence of Lyme disease.

Tick Tubes Decrease the Density of Nymphal Ticks (DON).



Article source: Jordan T Mandli, Xia Lee, Gebbiena M Bron, Susan M Paskewitz, Integrated Tick Management in South Central Wisconsin: Impact of Invasive Vegetation Removal and Host-Targeted Acaricides on the Density of Questing *Ixodes scapularis* (Acari: Ixodidae) Nymphs, *Journal of Medical Entomology*, 2021. <https://doi.org/10.1093/jme/tjab131>



Ticks on untreated mouse.

Results:

Less than 5% of the cotton supplied in the study remained near the deployment site (indicating mice removed the cotton for their nests) and there were no significant differences between the treated and untreated cotton for removed quantities.

The researchers noted significant reductions in both the density of nymphs (DON) at 53% and the density of infected nymphs (DIN) at 66% when sampling in areas where the permethrin-treated cotton treatment had been applied. The impact of the tick tubes on the local tick populations occurred in the second year of data collection and continuously reduced nymphal densities in all years thereafter.

Conclusion:

Tick tubes deployed twice a year significantly reduce the density of both uninfected and infected tick nymphs, even in small-scale areas. In addition, the methods described by the authors specifically mention that Thermacell Tick Control Tubes provide an affordable and consistent treatment option.

Implementing an integrated management program using tick tubes reduces the risk of disease transmission by killing ticks feeding on mice, the primary carrier of the Lyme disease bacteria, and reduces the overall density of ticks in the local area.

