

## THE LONE STAR TICK IN KENTUCKY

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The lone star tick is an important pest of humans, pets, and wildlife in western and southern Kentucky and is becoming more common in central and eastern counties of the state. The species gets its name from a distinct

white spot on the back of the adult female.

Each of the three active stages of this tick (larva, nymph, and adult) requires a blood meal and each will feed on humans. Lone star ticks are most active in Kentucky from April through September. Females lay several hundred eggs in a mass. Severe infestations occur when someone moves through or lingers in an area containing many recently hatched freckle-sized larvae (seed ticks) that are waiting for a meal. The larger nymphs and adults are more widely dispersed as they are carried around and drop off animals after feeding. Tick bites itch intensely and the irritation can last for about 10 days. Also, the bite site may become infected if it is scratched frequently and contaminated.

### Lone Star Ticks and Disease

The lone star tick is not known to carry Lyme disease but its associations with Southern Tick Associated Rash Illness (STARI) and human ehrlichiosis are being studied. As a precaution, report any flu-like symptoms that occur within 2 weeks of a bite or known exposure to any tick to your physician. Ticks can be preserved for identification in a small jar containing rubbing alcohol. There are no agencies in Kentucky that test ticks for diseases.

### Lyme Disease

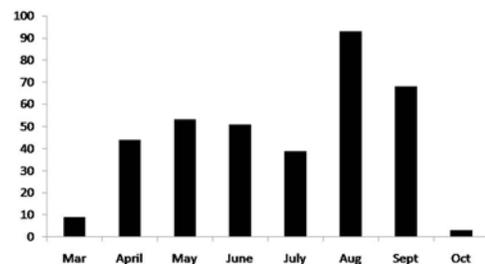
The lone star tick and the American dog tick are the most common species found on humans in Kentucky; neither is known to transmit Lyme disease. The blacklegged tick, vector of Lyme disease in the US, is not known to be established in Kentucky.

### Southern Tick-Associated Rash Illness (STARI)

A rash similar to that seen with Lyme disease has been seen in some people bitten by lone star ticks. The red rash is an expanding “bull’s eye” that develops around the site of some, but not all, bites. It usually appears

within 7 days and can expand to a diameter of about 3 inches. There also may be fever, headache, muscle and

Lone star tick samples submitted by month (1983 – 2007)



joint pain, and a feeling of “being tired”. The cause of STARI is not known but it responds to treatment with oral antibiotics. Physicians seeing patients with a recent lone star tick bite and an expanding rash that reaches a diameter of at least two inches are encouraged to call the Centers for Disease Control at (970) 221-6400 for more information on STARI.

### Human Ehrlichiosis (err-lick-ee-oh-sis)

The disease occurs primarily in the southeastern and south central regions of the US and is primarily transmitted by the lone star tick. Initial symptoms, which appear about 5 to 10 days after being bitten by an infective tick, generally include fever, headache, and/or muscle aches. Other signs and symptoms may include nausea, vomiting, diarrhea, cough, joint pains, confusion, and occasionally a rash. Many infected persons may develop an illness that is so mild that they have no symptoms or do not seek medical attention. According to information from the Kentucky Department of Public Health, six or fewer cases have been reported from the state since 1991.

### Personal Protection

Tick numbers tend to be high in around clearings and along so be especially careful in these areas. Here are some tips to protect you from ticks:

- Wear light-colored clothing so ticks can be seen easily
- Tuck pants into socks and shirt into pants keep ticks from reaching your skin
- Avoid or minimize time in tick habitats

- Use personal protection – repellents (DEET or picaridin) or permethrin-based (Permanone) clothing sprays
- Inspect your clothing and body regularly and remove ticks, especially at the end of the day. Ticks wander on the body for some time before settling to feed. Often, they can be found before they become attached.
- Take a warm soapy shower after potential tick exposure
- Wash clothing in hot water and detergent – store in sealed bag until it is washed

### Removing Ticks

Barbed mouthparts and cement secreted as they feed cause ticks to be anchored firmly to the skin. Use fine-tipped tweezers to grasp the tick as close to the skin surface as possible. Then, pull upward with steady, even pressure. The longer the tick has been in place, the harder it is to remove. Twisting or “unscrewing” the tick may cause the mouthparts to break off and remain in the skin. After removing the tick, thoroughly disinfect the bite site and wash your hands with soap and water.

## TICK MANAGEMENT

### Landscape Modifications – Long Term Reduction

Lone star ticks prefer overgrown areas, such as woodlot margins or trail edges, where cover protects them from direct sunlight and hot, dry air. These places also provide food and shelter for small and large mammals that ticks use for blood meals.

Wild mammals are the main way that the ticks survive and are moved around in an area. White-tailed deer, raccoons, and striped skunks are important hosts. Eastern cottontail rabbits and Virginia opossums generally have fewer ticks but are more abundant in an area. These animals can carry ticks into yards and back into areas that have been mowed or treated with an insecticide. Use fencing to restrict animal movement in problem areas, if practical.

Making areas unsuitable for ticks is a sustainable means of managing them. Keep lawns where ticks have been a problem mowed (3” or less). This will lower humidity and raise soil temperatures making conditions unfavorable. It also discourages cover for mice and other small animals that can be hosts for ticks. This is a long term approach but can reduce tick numbers by about 75%.

Do not attract wildlife or wandering animals that may be carrying ticks. Keep garbage in tightly closed cans and do not leave pet food outdoors for long periods of time.

Locate play areas for children as far away as possible from the edge of woods or overgrown areas to reduce potential contact with ticks.

### Insecticides

Insecticides provide a short-term means of reducing tick numbers until habitat modifications can be made; they are not the answer to long term control. Sprays should be applied to shady areas or borders along woods, especially where small animals could live. In general, there is no need to spray open sunny, mowed areas of turf.

Below are examples of some lawn and garden insecticides that are labeled for tick control in lawns. Follow the label direction for mixing and applying the diluted spray.

- Bifenthrin - Ortho Bug B Gon Lawn & Garden Insect Killer
- Cyfluthrin - Bayer Multi-Insect Killer Concentrate, Bayer Carpenter Ant & Termite Killer
- Cyhalothrin - Spectracide Flea & Tick Killer, Spectracide Triazicide Insect Killer Concentrate
- Permethrin - Dragon Lawn & Garden Protector, Bonide Bug Beater Yard & Garden Concentrate, etc.
- Carbaryl Sevin Liquid Insecticide

### Ticks Indoors

Ticks found indoors on floors, furniture, or beds usually have been carried in accidentally on people or pets. Vacuum areas where ticks have been found and seal the bag in a plastic trash bag and dispose of it. Fortunately, it is too dry for lone star ticks to survive long in buildings.

Wash bedding or clothing in hot soapy water to kill ticks that may be present.

Check clothing for ticks when you come inside. Place removed clothing in a sealed plastic bag to hold until it is washed.

### Ticks on Pets

Outdoor pets that roam freely can easily and repeatedly pick up ticks and carry them into the yard or home. Management of ticks on pets is an important part of dealing with chronic or severe tick problems.

- Check with your veterinarian for advice on preventive tick control products
- Groom animals carefully and check for ticks before allowing them indoors
- Keep pets off furniture where attached ticks can drop off
- Check pet sleeping areas routinely for ticks

### More on Ticks

Ticks cannot jump or fly. They climb up on vegetation and wait with their front legs extended to grab on to a passing host.

Ticks found in mowed lawns or in homes have usually have been brought there by pets, people or animals.

Folk remedies such as use of petroleum jelly or hot matches do not cause ticks to “let go”.

The life cycle of the lone star tick takes more than a year.

Lone star ticks have other names, including turkey mites and deer ticks.

#### References

CDC Erlichiosis page

<http://www.cdc.gov/ncidod/dvrd/ehrlichia/Index.htm>

CDC STARI page

<http://www.cdc.gov/ncidod/dvbid/stari/>

Ky Department for Public Health

<http://chfs.ky.gov/dph/Ehrlichiosis.htm>

Tick Control Around the Home

<http://chppm-www.apgea.army.mil/ento/facts/TickControlAroundTheHome.pdf>