

VT-VCE Tick ID and Prevention Tips

<http://pubs.ext.vt.edu/2906/2906-1396/2906-1396.html>

The following methods of prevention are recommended by the Virginia Department of Health.

Identification of the Black Legged Tick

http://entnemdept.ufl.edu/creatures/urban/medical/deer_tick.htm



Female blacklegged tick, *Ixodes scapularis* Say.



Male blacklegged tick, *Ixodes scapularis* Say. Photograph by Michael Patnaude, University of Florida.

Invent the Future

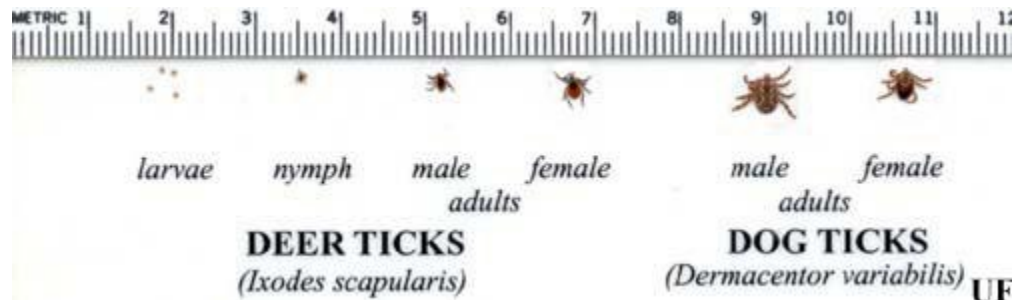
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Adult female blacklegged tick, *Ixodes scapularis* Say, engorged after a blood meal.



The life cycle and approximate sizes of the blacklegged tick, *Ixodes scapularis* Say, compared with the American dog tick, *Dermacentor variabilis* Say. Photograph by Michael Patnaude, University of Florida.

Photographs by Scott Bauer, USDA.

Description

Adult deer ticks have no white markings on the dorsal area nor do they have eyes or festoons. They are about 3 mm and dark brown to black in color. Adults exhibit sexual dimorphism. Females typically have the area behind the scutum with an orange to red color.

Life Cycle

- *I. scapularis* is a three-host tick; each mobile stage feeds upon a different host animal. In June and July, eggs deposited earlier in the spring, hatch into tiny six-legged larvae. Peak larval activity occurs in August, when larvae attach and feed on a wide variety of mammals and birds, primarily on white-footed mice (*Peromyscus leucopus*) (Anderson and Magnarelli 1980). After feeding for three to five days, engorged larvae drop from the host to the ground where they overwinter. In May, larvae molt into nymphs, which feed on a variety of hosts for three to four days. In a similar manner, engorged nymphs detach and drop to the forest floor where they molt into the adult stage, which becomes active in October. Adult ticks remain active through the winter on days when the ground and ambient temperatures are above freezing. Adult female ticks feed for five to seven days while the male tick feeds only sparingly, if at all.

- Adult ticks feed on large mammals, primarily upon white-tailed deer (*Odocoileus virginianus*) (Piesman et al. 1979, Carey et al. 1980, Wilson et al. 1990). Beginning in May, engorged adult females typically lay between 1000 to 3000 eggs on the forest floor at the site where they detached from their hosts.
- Mortality rates for ticks are high. Tick death is caused by density-dependent factors such as parasites, pathogens, and predators, all of which appear to have little impact on tick populations (Roberts et al. 1983, Matthewson 1984, Mather et al. 1987a). Density-independent factors causing tick mortality include a variety of adverse climatic and microclimate conditions, which can influence temperature and humidity and have the greatest impact on tick survival (Bertrand and Wilson 1996). Due to their low probability of finding a host, starvation also would be a major mortality factor of ticks. Host immunity and grooming activity also may affect mortality (Randolph 1979, Brown 1988).

Preventing Ticks on People

http://www.cdc.gov/lyme/prev/on_people.html

- Be extra vigilant in warmer months (April-September) when ticks are most active.
- Avoid wooded and bushy areas with high grass and leaf litter and avoid brushing against weeds and tall grass
- Walk in the center of trails.
- Wear light colored clothing so ticks can be found easily.
- Tuck pant legs into socks so ticks stay on the outside of pants.
- Conduct tick checks on children and pets every 4 hours
- Use repellents that contain 20 to 30% DEET (N, N-diethyl-m-toluamide) on exposed skin and clothing for protection that lasts up to several hours. Always follow product instructions. Parents should apply this product to their children, avoiding hands, eyes, and mouth.
- Use products that contain permethrin on clothing. Treat clothing and gear, such as boots, pants, socks and tents. It remains protective through several washings. Pre-treated clothing is available and remains protective for up to 70 washings.
- Other repellents registered by the Environmental Protection Agency (EPA) may be found at <http://cfpub.epa.gov/oppref/insect/>
- Bathe or shower as soon as possible after coming indoors (preferably within two hours) to wash off and more easily find ticks that are crawling on you.
- Conduct a full-body tick check using a hand-held or full-length mirror to view all parts of your body upon return from tick-infested areas. Parents should check their children for

ticks under the arms, in and around the ears, inside the belly button, behind the knees, between the legs, around the waist, and especially in their hair.

- Examine gear and pets. Ticks can ride into the home on clothing and pets, then attach to a person later, so carefully examine pets, coats, and day packs.
- Tumble clothes in a dryer on high heat for an hour to kill remaining ticks. (Some research suggests that shorter drying times may also be effective, particularly if the clothing is not wet.)

Preventing ticks on your Pet

http://www.cdc.gov/lyme/prev/on_pets.html

- Check your pets for ticks daily, especially after they spend time outdoors.
- If you find a tick on your dog, remove it right away.
- Ask your veterinarian to conduct a tick check at each exam.
- Talk to your veterinarian about tick borne diseases in your area.
- Reduce tick habitat in your yard.
- Talk with your veterinarian about using tick preventives on your pet.
- Keep pets outside from April to September to help keep ticks out of the house

Preventing ticks in the yard

There are three basic methods for vector management: reduce immigration, increase mortality, and reduce reproduction. Restricting the movement of infested hosts into an area reduces the immigration of ticks since they cannot move far on their own. Birds are difficult to restrict but by reducing food supplies and preferred vegetation their migration through an area can be decreased. The density and movement of rodents, which do not travel large distances, may be influenced by altering habitat to reduce brush, stacked wood and food sources. Large mammals such as deer can be discouraged by using plants that do not attract them, fencing (Olkowski et al. 1990) and deer repellents (Daniels et al. 1989, Wilson et al. 1990). Increasing the mortality of the tick is an effective strategy. **Targeting areas of high tick densities with pesticides is effective if it can reach the ticks (Schulze et al. 1987, Stafford 1991).** Unfortunately, leaf litter provides a barrier to application.

http://entnemdept.ufl.edu/creatures/urban/medical/deer_tick.htm

(http://www.cdc.gov/lyme/prev/in_the_yard.html)

- Clear tall grasses and bushes around homes and at the edge of lawns. Keep grass and underbush cut and thinned and keep leaves raked.

- Place a 3-ft wide barrier of wood chips or gravel between lawns and wooded areas and around patios and play equipment. This will restrict tick migration into recreational areas.
- Stack wood neatly and in a dry area (discourages rodents that ticks feed on).
- Keep playground equipment, decks, and patios away from yard edges and trees and place them in a sunny location, if possible.
- Remove any old furniture, mattresses, or trash from the yard that may give ticks a place to hide.
- Treat your lawn with an approved pesticide for tick control. **Area-wide spraying kills only ticks on exposed plants and will not control ticks on rodents and deer.**

If you have concerns about applying acaricides:

- Area-wide spraying kills only ticks on exposed plants and will not control ticks on rodents and deer.
- Check with local health officials about the best time to apply acaricide in your area.

Identify rules and regulations related to pesticide application on residential properties (Environmental Protection Agency and your state determine the availability of pesticides).

<http://www.ext.vt.edu/>

http://pubs.ext.vt.edu/456/456-018/Section_6_Nuisance_Insects_of_the_House_and_Yard-1.pdf

http://pubs.ext.vt.edu/456/456-018/Section_7_Pets.pdf

- Hire professional pesticide companies to apply pesticides at your home.
- For more information go to <http://www.ct.gov/caes/lib/caes/documents/publications/bulletins/b1010.pdf>

Compiled by Beth Sastre, Loudoun County Extension Office. April 2014.