

Can you identify this tree? See page 7 for the answer.

## In This Issue...

3 OSHA Files

4   
Safety Strategies

5 Pest Notes

7 Mr. Safety  
Arborist Quiz

## Tick Alert!

**Lyme disease (LD)** is an infection caused by *Borrelia burgdorferi*, a type of bacterium called a spirochete (pronounced spy-ro-keet) that is carried by deer ticks. An infected tick can transmit the spirochete to the humans and animals it bites. Untreated, the bacterium travels through the bloodstream, establishes itself in various body tissues, and can cause a number of symptoms, some of which are severe.

**LD** affects the skin in its early, localized stage, and spreads to the joints, nervous system and other organs in its later stages.

If treated early with antibiotics, **LD** is almost always readily cured. Generally, **LD** in its later stages can also be treated effectively, but because the rate of disease progression and individual response to treatment varies from one patient to the next, some patients may have symptoms that linger for months or even years following treatment.

Although **LD** is now the most common arthropod-borne illness in the U.S., its diagnosis can be challenging for clinicians because of its diverse symptoms and the unreliability of currently available blood tests.

The prevalence of **LD** in the northeast and upper Midwest is due to the presence of large numbers of the deer tick's preferred hosts - white-footed mice and deer. White-footed mice serve as the principal "reservoirs of infection." An infected tick can then transmit its store of spirochetes to its next host. Ticks are not born with the spirochete, so a larval tick cannot give you **LD**.

The deer tick (aka the black-legged tick) and the related Western black-legged tick are the only known transmitters of **LD**. An infected tick normally cannot begin transmitting the spirochete until it has been attached to its host about 36- to 48 hours. Therefore, the best line of defense

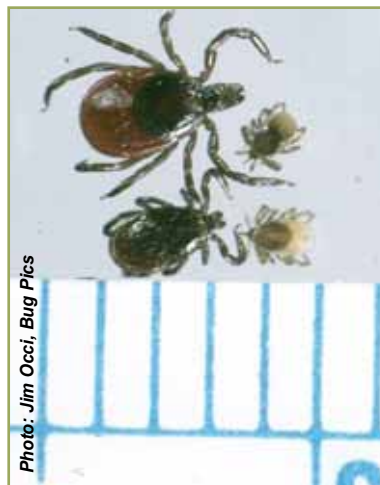


Photo: Jim Occi, Bug Pics

**Deer tick larva (smallest), nymph and adult. Scale is millimeters.**

against **LD** is to examine yourself at least once daily and remove any ticks before they become engorged with blood. Be alert in case any symptoms do appear; an expanding red rash (especially surrounding the tick bite), flu-like symptoms, or joint pains in the first month following any deer tick bite could signal the onset of **LD**.

**LD** is spreading slowly along and inland from the upper east coast, as well as in the upper Midwest and the northern California and Oregon coast. In order to assess **LD** risk you should know whether

infected deer ticks are active in your area. The population density and percentage of infected ticks that may transmit **LD** vary markedly from one region of the country to another. There is even great variation from county to county within a state and from area to area within a county. For example, less than five percent of adult ticks south of Maryland are infected with *B. burgdorferi*, while up to 50 percent are infected in areas of the northeast with a high tick infection rate. The tick infection rate in Pacific coastal states is between two percent and four percent.

### SYMPTOMS

The first symptom is usually an expanding rash (called erythema migrans, or EM, in medical terms) which is thought to occur in 80 to 90 percent of all **LD** cases. An EM rash generally has the following characteristics:

- Usually (but not always) radiates from the site of the tick bite
- Appears either as a solid-red expanding rash or blotch, or a central spot surrounded by clear skin that is in turn ringed by an expanding red rash (looks like a bull's-eye)
- Appears an average of one to two weeks (range is three to 30 days) after disease transmission
- Has an average diameter of five to six inches (range is two inches to two feet)

*...continued on page 2*

If you can't avoid tick exposure, you should use a combination of precautions to dramatically reduce your chances of getting Lyme disease

...*Tick Alert!* continued from page 1

- Persists for about three to five weeks
- May or may not be warm to the touch
- Is usually not painful or itchy; EM rashes appearing on brown-skinned or sun-tanned patients may be more difficult to identify because of decreased contrast between normal skin tones and the red rash. A dark, bruise-like appearance is more common on dark-skinned patients.

Around the time the rash appears, you may see swelling of the lymph glands near the tick bite. Other symptoms such as headache, joint pain, chills, fever and fatigue are common, but they may not seem serious enough to require medical attention. These symptoms may be brief, only to recur as a broader spectrum of symptoms as the disease progresses.

As the **LD** spirochete continues disseminating through the body, a number of other symptoms including severe fatigue, a stiff, aching neck, and tingling or numbness in the extremities or facial paralysis can occur.

The more severe, potentially debilitating symptoms of later-stage **LD** may occur weeks, months or, in a few cases, years after a tick bite. These can include severe headaches, painful arthritis and swelling of joints, cardiac abnormalities, and central nervous system involvement leading to mental disorders.

#### DIAGNOSIS

If you think you have **LD** symptoms you should see your physician immediately. The EM rash, which may occur in up to 90 percent of the reported cases, is a specific feature of **LD**, and treatment should begin immediately. Even



Photo: Allen C. Steere; Invasive Species.org

**Lyme disease spirochete shown here by the distinctive skin lesion (erythema migrans) that appears in about 80-90 percent of all cases usually three days to one month after the bite.**

without the rash, early diagnosis of early **LD** should be made solely on the basis of symptoms and evidence of a tick bite and not blood tests, which can often give false results in the first month.

#### TREATMENT

Early treatment of **LD** (within the first few weeks after initial infection) is straightforward and almost always results in a full cure.

Treatment begun after the first three weeks will also likely provide a cure, but the cure rate decreases the longer treatment is delayed. Common oral antibiotics are most highly recommended for treatment of all but a few symptoms of **LD**.

Do not take diagnosis and treatment into your own hands, but go to see a doctor! Only specific antibiotics and specific courses (dosages, durations) of treatment are effective.

#### PREVENTION & CONTROL

Larval and nymphal deer ticks often hide in shady, moist ground litter, but adults can often be found above the ground clinging to tall grass and shrubs. They also inhabit lawns and gardens, especially at the edges of woodlands and around old stone walls where deer and white-footed mice thrive.

Deer ticks cannot jump or fly, and do not drop from above onto a passing animal. Potential hosts acquire ticks only by direct contact.

If you can't avoid tick exposure, you should use a combination of precautions to dramatically reduce your chances of getting **LD**. First, using color and size as indicators, learn how to distinguish between deer ticks and two other common tick species – dog ticks and Lone Star ticks. Nymphal deer ticks are the size of poppy seeds; adult deer ticks are the size of sesame seeds.

For working or spending time outdoors, make these easy precautions part of your routine:

- Wear light-colored clothing with a tight weave to spot ticks easily
- Scan clothes and any exposed skin frequently for ticks
- Use insect repellent containing DEET or Permethrin on clothes. Only DEET can be used on exposed skin, but never in high concentrations; follow the manufacturer's directions.
- Avoid sitting directly on the ground or on stone walls
- Keep long hair tied back
- Do a final, full-body tick-check at the end of the day
- Clothes can be spun in the dryer for 20 minutes to kill any unseen ticks
- A shower and shampoo may help to dislodge crawling ticks, but is only somewhat effective.

If you do find what you think is a deer tick attached to your skin, there is no need to panic. Studies of infected deer ticks have shown that they begin transmitting **LD** 36 to 48 hours after attachment, so your chances of

*continued on page 3...*

# OSHA FILES

## MAY CASE STUDY

Occupational Safety & Health Administration, U.S. Department of Labor

Police arrested a dump truck driver whose runaway wood chipper caused the deaths of a man and his two young children. The driver was charged with homicide by vehicle, involuntary manslaughter, aggravated assault and numerous vehicle code violations.

Police said the driver admitted he did not properly hook the 6,050-pound brush chipper to his truck before it became detached. Investigators have not said what exactly caused the separation— whether it was excessive speed, a bump in the road or the hilly terrain. But it probably doesn't matter. The driver told investigators he did not engage the required latch, pin or safety chains.

The chipper crossed the center line of the four-lane roadway and struck the driver's side of a minivan traveling in the opposite direction.

Police said the truck was speeding, doing between 67 and 73 mph in a 45-mph zone. The chipper was moving at 70 mph when it collided with the minivan. The accident happened in a split second that left the deceased driver with no time to react.

It gets worse. The driver told police he was hung over on the day of the accident, that he had taken prescription painkillers earlier in the day and had "a beer" at a bar about 5 1/2 hours before the crash.

The wood chipper was found to have two areas of fatigue – on one of the safety chains and also on the pintle ring. Either defect would have led to it being taken off the road had they been discovered, according to authorities.

Ten search warrants have been executed for the business where this person worked in connection with the investigation.

### **How could this have been prevented?**

It seems almost pointless to ask the good readers of TW to try to analyze such a blatant crime of an accident. But here are a couple take-home messages for everybody:

Check that your hitch is safe and secure.

TW heard a story about a much more conscientious driver who crossed some railroad tracks and came to a stop, only to watch in horror as his chipper passed him on the right!

As the driver, make sure that checking the security of the trailer hitch is part of your walk-around inspection before driving. This is not a task that should be delegated.

When a co-worker is impaired or reckless, do something about it. Do not allow their actions to put them or anyone else at risk.



...checking  
the security  
of the trailer  
hitch is part  
of your walk  
around  
inspection  
before  
driving

### **...Tick Alert!** *continued from page 2*

getting LD are greatly reduced if you remove a tick within the first 24 hours.

#### **TO REMOVE A TICK:**

- Using a pair of fine-pointed tweezers, grasp the tick by the head or mouthparts right where they enter the skin. DO NOT grasp the tick by the body.
- Without jerking, pull firmly and steadily directly outward. DO NOT twist the tick out or apply petroleum jelly, a hot match, alcohol or any other irritant to the tick in an attempt to get it to back out. These methods can backfire and even increase the chances of the tick transmitting the disease.
- Make sure you kill the tick.
- Clean the bite with disinfectant.
- Watch the site of the bite for the appearance of a rash beginning three to 30 days after the bite. If a rash and/or other early symptoms develop, see a physician immediately.



ISSN 1529-4854 ©2006

**Editor - Peter Gerstenberger**

**Graphic Design/Layout - Kathleen Costello**

All materials contained herein are for the information of **The TreeWorker** subscribers. UNAUTHORIZED REPRODUCTION WITHOUT EXPRESSED WRITTEN PERMISSION IS NOT PERMITTED. Pictures, articles and other data are in no way to be construed as an endorsement of products, techniques or members.

**The TreeWorker** is published monthly by the  
Tree Care Industry Association, Inc.  
3 Perimeter Road, Unit 1, Manchester, NH 03103  
Call 1-800-733-2622 to order  
and Sachin Mohan at ext. 111 to advertise.

Articles in **The TreeWorker** meet the American National Standards Institute (ANSI) standard Z133.1 for safety in arboricultural operation and the ANSI A300 series of standards for tree care maintenance operations. These standards are industry consensus standards that apply only to readers in the United States of America.

**The TreeWorker** readers in countries other than the United States of America are cautioned that your local and/or national standards may not agree with all standard practices represented in **The TreeWorker** articles.