7-1-11 Battling Bugs and Barberry

When non-native species are introduced, we don't know what havoc might be wreaked until it is too late. Back in their homeland, whether it is a fish, a bee or a plant, that beautiful being lived harmoniously in balance because of natural enemies keeping it there. Take the beautiful out of its home, though, and it may turn into a beast.

Here in New England, we are familiar with purple loosestrife choking out our rivers, milfoil filling our ponds and bittersweet vine taking over our trees. But did you know that in Connecticut, where Lyme Disease was named for the town where a couple of observant women noticed there was an unusually high number of children hobbling around on crutches, scientists are now trying to eliminate an invasive plant because it is creating an ideal niche for disease carrying ticks?

The plant of concern is barberry and it was introduced for landscaping to this country about 100 years ago. Some of the varieties have thorns and form a naturally obstructive hedge. Others are planted for their color, ranging from yellow to green or purple. In CT, it is invading the forest floor, forming a ground cover, easily spreading both by its berries and by forming roots wherever its low-lying branches touch the ground. It is this low lying and easy spreading growth habit of barberry that makes it such a happy home for ticks. Ticks do not like dry conditions. They are active all year long, when the temperatures are above freezing and they are very happy with a moist spring such as this year's and they're pretty happy with New England's humidity, also. The shade of the barberry has formed a wonderful barrier against their enemy: hot, dry conditions and allowed them to be bountiful where and when they would otherwise be dead or at least in hiding. And this bounty translates into more and more cases of disease.

Lyme disease is not the only one carried by ticks. There is also Anaplasmosis**,** Babesiosis**,** Ehrlichiosis**,** Rocky Mountain Spotted Fever **,** Southern Tick-Associated Rash Illness(STAR and it is in eastern USA, also)**,** and Tularemia. Lyme disease is better known and doctors are more familiar with its headache, arthritic and neuralgic symptoms, along with the bulls-eye rash which is not seen in two thirds of its victims. It is a potentially very dangerous disease if gone untreated and it is on the rise throughout most of our country. When I developed my second case, it was from a deer tick encountered in the beautifully serene Muir Woods in northern California. At that time, in 2000, Lyme disease was in New England and in northern California. Now, it has travelled across much of the USA, especially in the mid-west.

Entomologists, botanists, landscapers, public health proponents and legislators in Connecticut are so concerned with the correlation of the rapid rise of Lyme disease and the invasive barberry, they are doing all in their power to rid the area of the plant and have taken legal steps to phase out the legal introduction of any additional plants. In the meantime, people are being taught to destroy the plant by burning it. You know it is a drastic situation when fire is being used as an eradication tool.

Although the use of carefully controlled burns is actually an ancient agricultural tool, in Connecticut, they just want to reduce the incidence of Lyme disease.

Even if your property does not have any barberry, we can learn from our sister state by planting and treating with disease prevention in mind. Avoiding shade producing plants helps eliminate ticks and mosquitoes in our yard. However, I can't and don't want

to eliminate all the shade in my yard. There are a few things that can be done for the shady areas. Be aware of them by wearing insect repellant for the mosquitoes and conducting a tick check after walking in and working in shady areas.

Secondly, we can also treat our yard with insect pesticides. When spraying for inch worms, we spray the trees. When spraying for mosquitoes, aim for the shady areas, including groundcovers. When spraying for ticks, aggressively and vigorously, aim for the leaf litter and low lying plants. What to spray, I will leave up to you. For my land, I have made the switch from the chemical pesticides to botanical ones, including concentrated garlic juice and I have seen the difference. Yes, my yard smells like an Italian dinner for an hour or two but I don't mind that.

We can also shape and reshape the landscape with disease prevention in mind. Trails are good things. More light will be shed there, keeping it dry and, thus, making it inhospitable to ticks. Maintain the trails and use them, whenever possible, to avoid the encounter in the first place. Avoiding the encounter prevents the disease, doesn't it? One entomologist at the University of Rhode Island, Dr. Thomas Mather, became so invested in this concept, that he named his website after it: TickEncounter.org. It is an amazing, fun, interactive website, rich with information. Check out the site, prevent the encounter and do all you can to prevent the bite.

Cathleen Drinan is the health agent for Halifax, MA. You can bug her with your concerns and stories at 781 293 6768 or cdrinan@town.halifax.ma.us

Image: *Ixodes scapularis* nymph on the face of a penny. Ticks in this stage are usually the size of a poppy seed and can transmit *Babesia microti* if infected. Credit: Graham Hickling, University of Tennessee