



SUMMER TO DO LIST

- 1 Provide supplemental irrigation each week or more often on newly planted trees, shrubs and older plants stressed with insect or disease problems when rainfall is lacking in summer.
- 2 Prune flowering trees and shrubs such as dogwood, azaleas, rhododendron and forsythia. Once flower buds begin to form in late summer, judicious pruning reduces the bloom somewhat but should not impact the display significantly.
- 3 Inspect for pests that commonly arrive during hot, dry weather. These include powdery mildew and spider mites. Monitor for these during the late summer, especially on lilac, crapemyrtle, dogwood, spruce, euonymous and butterfly bush.
- 4 Apply treatments as needed if pests are detected.
- 5 Now is the best time to have plants inspected for early symptoms of poor health. Trees affected by early stages of stress could display premature fall color in late summer, partial defoliation and symptoms of moisture stress.
- 6 Assess canopies for dead branches and structural weaknesses that can be pruned later in winter.
- 7 Take soil samples that help develop soil management programs for fall.

Enroll Now to Receive Tree Tips Electronically!

The Internet has made the world we live in a much smaller and more efficient place. We would like to take advantage of this great tool and offer *Tree Tips* to you electronically. If you're interested in going "paperless" and receiving your future issues of *Tree Tips* via the web, use the link below to enroll. Please use your client code in the yellow box on the reply card included in this mailing. It looks like the sample below.

www.bartlett.com/newsletter

If you try it and decide you prefer the printed copy, you can always return to mail service. ■



**SAY YES TO ORGANIC PRODUCTS.
SAY YES TO BOOST NATURAL!**

Industry and the population as a whole are embracing the concept of organic living. Conserving resources, protecting the green spaces and improving our world situation has become of paramount interest to everyone, and it should be.

At Bartlett, we are committed to selecting and using environmentally sound products effectively to keep your landscape trees and shrubs at their peak of health. This is nothing new for us; we have been thinking and acting this way for decades.

We keep our scientists at the Bartlett Tree Research Laboratories very busy testing both new and old products for effectiveness and developing new techniques and methods to maintain and enhance the beauty and health of your landscape plants.

We are excited to announce the addition of Bartlett BOOST Natural to our BOOST® family of fertilizers. Bartlett has been using organic fertilizers for many years. Like other Boost products, Boost Natural is injected into the soil so that it is readily absorbed by the roots of trees and shrubs. Boost Natural is made entirely of natural or organic materials that are listed by the Organic Materials Review Institute (OMRI). Boost Natural is phosphorus free, so it is appropriate to use near environmentally sensitive and watershed areas. With one of the lowest Salt Indexes in the

fertilizer industry, fertilizer burn is a rare event. Boost Natural has a moderate nutrient release rate, giving both a quick green up and lasting for months.

Bartlett has an entire line of natural and organic services for your landscape. They include:

- MoniTor-R_x, a pest management (IPM) program that offers natural-based solutions to pest problems.
- Root Invigoration® the process of incorporating organic matter and other materials into the soil to reduce soil compaction and promote root growth.
- Mulching with wood chips to reduce soil water loss and protect the soil.

Please ask your Bartlett Arborist Representative about our all of our natural-based products and see how we are working to preserve the health and beauty of trees and shrubs while sustaining our environment. ■



Trees Save Energy, Add Home Value And Enhance our Lives

In our present economic circumstances, everyone is doing their best to decrease outgoing expenses. Try heating a house in northern climates this year with a furnace requiring fuel oil. Or air conditioning a house in the southwest, when temperatures climb to 100° or more. The sad fact is that it's taking increasing amounts of money to run a household.

You may not be aware that the trees near your house are doing their best to save you money. And, they add value to your property just by being there.

The International Society of Arboriculture's evaluation formula that uses trunk size indicates that a specimen shade tree with a trunk two feet in diameter could be worth as much as \$17,176. A three foot diameter is assessed at \$38,646.

Furthermore, realtors add 10% to residence value when the property is wooded.

But that's not all. Trees can be just as effective at saving energy costs as the installation of insulation and weather-tight windows and doors. Three trees, planted in the right place, can save up to 30% of heating and cooling expenditures.

Deciduous Trees: When they're in full leaf, shade trees placed at the south and west of buildings will cool indoor temperatures and reduce electric use during hot months. Planted near patios, driveways



and sidewalks shade trees minimize heat absorption and enhance outdoor living. When leaves are shed in the colder months, the absorption of sunlight and heat into living spaces helps to decrease fuel costs.

Evergreen Trees: Used to create wind-breaks on the north side of buildings, evergreens will save from 10% to 50% on heating bills. In addition, this "natural fencing" buffers traffic noise and provides shelter for birds and other wild life.

It's been documented that patients recover from illness and surgery faster in hospitals with rooms that have landscape views.

Most important, trees replenish our atmosphere. They absorb fossil fuel emissions and return life-giving oxygen to the environment, improving living conditions for people with health issues like asthma and emphysema.

All in all, having trees near us is life enhancing. When you pay attention to the care of trees and shrubs on your property, you are not only protecting valuable assets, you're adding to the quality of your life. ■

The Principle of Carbon Sequestration

Carbon is found in all living things and is the major building block of life. It comes in many forms, such as plant biomass, soil organic matter, and as the gas carbon dioxide (CO₂). Carbon sequestration refers to long-term storage of carbon that occurs in vegetation, soils, and oceans.

The principle of carbon sequestration by trees is simple: through the process of photosynthesis, trees take up CO₂ and chemically convert this into carbohydrates and then into more complex carbon compounds such as cellulose (wood). About half of the CO₂ absorbed by leaves is eventually stored as wood. How much carbon can be sequestered (stored) depends on the size of the tree – the bigger the tree becomes, the more carbon it stores. How fast it stores carbon depends on how fast the tree grows. So, trees that grow fast and get big (tulip poplar, *Liriodendron tulipifera* is a good example) remove more CO₂ from the atmosphere than smaller, slower-growing ones. Denser wood also means more carbon stored.

And deciduous trees (hardwoods) generally grow faster than conifers. How much carbon are we talking about here? According to the Energy Information Administration, a 30-year-old hardwood that's classified as a speedy grower—a red mulberry, for example, or a laurel oak—will sequester an average of 69.5 pounds of carbon per year, versus 36.8 pounds for a hardwood whose growth rate is deemed only moderate, and a measly 16.8 pounds for a true slow-poke. The farther south one goes, the longer the growing season, and the

more carbon that can be sequestered. This is why tropical rainforests are so important.

Through arboricultural techniques such as prescription fertilization, especially with nitrogen, tree growth in most of the United States can be accelerated so that more carbon is taken up. Some species require very little care, have dense wood, and live a long time, and in that way not only sequester carbon, but require little use of fossil fuels in their maintenance. London plane trees are a good example of this type of tree. Research is accelerating on fast-growing hybrid trees that can store more carbon than native trees.

But what happens when a tree dies? If it simply decomposes, CO₂ is gradually returned to the atmosphere. A good alternative is to turn it into mulch. The primary way that carbon is stored in the soil is as soil organic matter. Of the carbon found on land, soils contain approximately 75% — three times more than the amount stored in living plants and animals. This can be found as humus—decomposing plants and animals, microbes (protozoa, nematodes, fungi, and bacteria), and carbon associated with soil minerals. Soil carbon can return to the atmosphere quickly, or can be stable longer than above ground biomass. Much depends on the form of soil organic matter, soil texture, climate, and moisture. One way to incorporate carbon into the soil while benefiting trees is by Root Invigoration. Mulching aids moisture retention, and moderates soil temperatures, both of which can enhance tree growth and therefore carbon storage.



CULTURAL PRACTICES HELP SUPPRESS PESTS

Maintaining plant health with sound cultural practices controls pest infestations. Proper pruning, soil health, correct mulching and timely irrigation are routine considerations to maintain healthy plants and prevent pest problems. Some of the most serious insect and disease problems include borers, bark beetles, cankers and root disease.

Cultural practices play an integral role in suppressing pest populations. Pruning and surgery are used to eliminate diseased and insect infested branches and plant tissue.

Removing leaves at the end of the growing season reduces the potential of foliage diseases on susceptible species the following year. Eliminating fallen holly leaves effectively suppresses leafminer populations. *Phytophthora* root rot is largely controlled by good cultural practices. *Phytophthora* is discouraged by adequate amounts of soil organic matter to promote growth of antagonistic microorganisms.

Monitored irrigation also discourages the pathogen's growth and spread. Maintaining a soil pH near neutral or above will inhibit the disease.

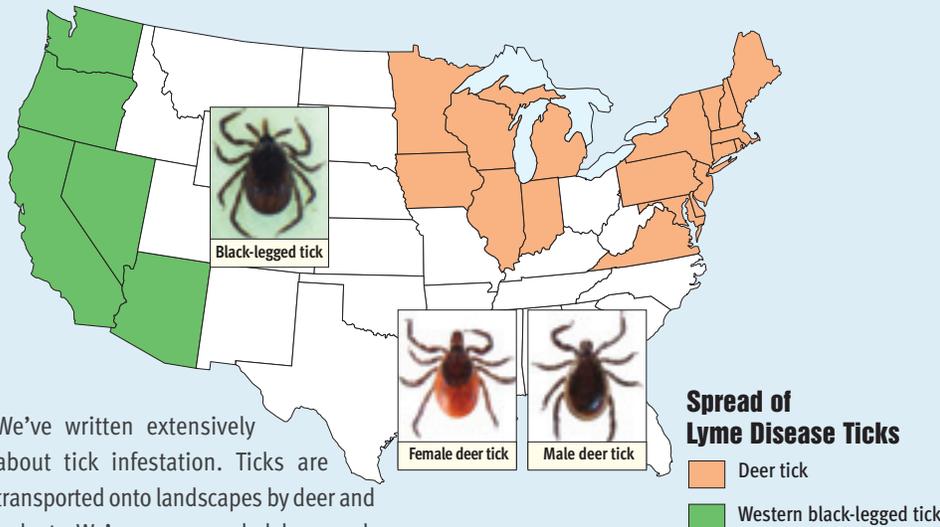
But the most important cultural practice is the design and planting of a landscape. Selecting plants that are suited to the site is key. Spacing plants to allow for future growth reduces disease problems later on by allowing better light and air

circulation. Many insect and disease problems in new landscapes result from poor attention to basic planting techniques. Common mistakes like planting too deep and excessive mulch on root flares cause future issues.

Modern pest management relies on integrated combination of sound cultural practices. Releasing beneficial insects like ladybugs when possible, applying timely chemical treatments as necessary and placing an emphasis on natural and organic products are all components of a good program of care. In landscape pest management, cultural practices form the cornerstones of the management program.

Ask us about our pest management programs and about the cultural practices we would recommend for your property. ■

TICKS...NOT JUST A NUISANCE ANYMORE



We've written extensively about tick infestation. Ticks are transported onto landscapes by deer and rodents. We've recommended deer repellents, barrier treatments, debris and woodpile clean up and pruning to increase sunlight to decrease tick populations. We've identified areas where ticks are likely to inhabit and advised that properties be inspected to remove these breeding places.

At the risk of being redundant, we're revisiting the subject of tick infestation and the steps that can be taken to improve your living environment. Spread by deer ticks, Lyme disease is epidemic in the Northeast, particularly in Connecticut where the disease was first identified.

The symptoms of Lyme disease are vague and can be missed. They range from feelings of lethargy or could mimic the flu. The telltale red "bull's-eye" that indicates Lyme disease may or may not be present. It isn't until other health problems occur that doctors tie it back to Lyme, or, it may be misdiagnosed as another physical problem.

There are serious health issues related to Lyme disease. Neurological damage can appear as loss of balance and lack of muscle control. It can hasten and worsen dementia and Alzheimer's. Blindness may also result in extreme cases.

Visitors to infested areas are not exempt from tick bites and may return home with undiagnosed Lyme disease. Pets also contract Lyme and it may not be identified as such. Veterinarians have a vaccination, but it is not entirely effective.

Lyme is spreading to the north and to the west. That's why we continue to advise our readers to take the steps necessary to reduce tick infestation on their properties.

- Clean woodpiles and debris
- Use deer repellents to deter browsing
- Prune for sunlight
- Use barrier treatments around the perimeter of the property

Tick vectored disease is not limited to the northeast. Other virulent diseases related to ticks are listed below.

Ask your Arborist Representative for a tick assessment of your property, and take the precautions necessary to maintain not only the health of your trees and shrubs, but your own health as well. ■

Disease	Vector	US Region
Rocky Mountain Spotted Fever	Wood Tick	East, West, South
Babesiosis	Deer Tick	Northeast, West Coast
Ehrlichiosis	Lone Star Tick	South Atlantic, South Central
Relapsing Fever	<i>Ornithodoros</i>	West
Colorado Tick Fever	<i>D. andersoni</i>	West
Tularemia	<i>D. andersoni</i> Dog Tick, <i>D. variabilis</i>	Southeast, South-Central, West
Tick Paralysis	<i>D. andersoni</i> Dog Tick, <i>D. variabilis W.</i>	East
Cytauxzoonosis	Dog Tick, <i>D. variabilis W.</i>	South, Southeast

ASK DR. BRUCE

Question: I have a question about a 75-80 year old ginkgo tree that is located at my father's insurance office. About 1 1/2 months ago, electricians were trenching for underground utilities about 4-5 feet from this tree and cut about 4-5 large roots. Some of these were 6-7 inches in diameter. We are concerned that this may kill the tree. So far we haven't noticed any stress on the tree. Is there anything we can do to help the tree? Do you think this will cause the tree to die?

Brent Johnson

Answer: Cutting roots within 4-5 feet on a mature tree can not only impact the health of the tree but, more importantly, it can compromise the stability of the plant. Research has shown that when trenches occur within three times the diameter of the stem, stability is compromised. So if the stem of the tree is two feet across (at four feet above ground), cuts made within six feet of the base can cause the tree to fail especially in high winds.

Ginkgo is very tolerant of stress and health may not be significantly impacted by the root cut. However you should contact a certified arborist to inspect the tree and advise you regarding the failure potential of the root system. In the meantime, mulch the root zone of the tree and irrigate during dry periods to avoid drought stress. For irrigation, it is best to use soaker hoses beneath the mulch and irrigate heavily (several hours) once per week when rainfall is not adequate.

Dr. Bruce R. Fraedrich

The Secret Lore of Trees

Although most of these "tree facts" can't be scientifically tested or proven, they are interesting reading. The lore involving trees usually has a basis in fact and makes sense even if the source is somewhat obscure. People without access to "modern" medicines and healthcare had to determine what materials would soothe ailments and affect cures. Housing, tools and transportation were also of primary concern. The observation of the attributes of native trees and trial and error use lead to the selection of trees for different purposes and their place in folklore. I suspect the myths and fairy tales were shared as an evening's entertainment by the fire and passed down through the ages by good storytellers – but I wouldn't ignore these legends and tempt fate.

ASH (*Grandeur*) Strips of black ash were split to make splints for baskets and hoops. It was also used in weaver's beams to weave cloth. The seeds of the ash are said to divine love. If seeds are not produced on a tree the owner is unlucky in love, or it may be that a future venture will not be successful. If you find an ash leaf, success will be certain if the ash leaf is kept or worn. Fresh ash leaves kept under the pillow encourage psychic experiences.

BEECH (*Prosperity*) Beech tablets were used as writing surfaces. Beech and book share the same word origins. Beech is associated with ancient knowledge as in old objects, places and writings. According to Greek myth, the God and Goddess Apollo and Athena transformed into vultures and sat in a beech tree to observe the war between the Trojans and the Greeks.

CEDAR (*Strength*) This tree has been used by Native American Plains Indians for spiritual purification (as has sage). The Pawnee burned twigs of the cedar tree for relief from nightmares and nervous conditions. In the ancient world, incense made from the cedar tree was highly valued. The best incense came from Lebanon. Cedar is still used in closets today for it's scent and it's properties as an insect deterrent.

HAWTHORN (*Caution*) The hawthorn tree is said to bring bad luck to its owner. Bringing any part of the tree into a house especially the flowers will result in someone in the house passing away. Cutting down a hawthorn tree predicts the same dire result. However, another belief is that a hawthorn branch placed above the door will warn negative forces not to enter. Some believe that the hawthorn is a holy plant, and that

negative energies will be repelled by it. A flowering hawthorn tree is a sure sign that winter is over and spring is coming. Hawthorn wood provides the hottest fires known. Its leaves and blossoms are used to make a tea to aid with anxiety, appetite loss and poor circulation.

HAZEL (*Mysticism*) In Europe and North America, hazel is commonly used for water witching, the art of finding water with a forked stick. Hazel wood is used to gain knowledge, wisdom and poetic inspiration. Hazel nuts were believed to possess mystical powers and could be used in divining.

MAPLE (*Abundance, Success*) Sugar maple has the highest sugar content in its sap but all maple species can be tapped for syrup and sugar. It was a vital resource to early North American settlers. Putting a maple branch in a house is also said to ensure that bats will not enter. The maple encourages good health and a long life for a child passed through its branches.

WALNUT (*Intellect, Strategy*) Walnut is regarded as a sinister tree. It kills any vegetation near it. Walnut trees seem to especially dislike oaks. A heavy crop of walnuts indicates a harsh winter. To dream of walnuts implies unfaithfulness in relationships. Carrying a spider in a walnut shell is supposed to prevent fevers. The nutshells of the walnut make a dye that was used by settlers.

YEW (*Vision*) All parts of the yew are poisonous except for the fleshy covering of the berry. Its medicinal uses include a recently discovered treatment for cancer. Long associated with magic, death, rebirth and the runes. Ancient yews can be found in churchyards all over Britain, where they often pre-date even the oldest churches. Yew wood was used for making bows. The Pacific yew is used by the Haida and by other tribes to make masks and boxes. Yew is used to enhance magical and psychic abilities, and to induce visions. ■



**BARTLETT
TREE EXPERTS**
SCIENTIFIC TREE CARE SINCE 1907

published by

THE F.A. BARTLETT TREE EXPERT COMPANY
(877) BARTLETT (877-227-8538) in U.S. and Canada
www.bartlett.com

