BARTLETT TREE TIPS

THE F. A. BARTLETT TREE EXPERT COMPANY

Spring Plant Health Care Tips

Early spring is best to make needed changes to your landscape. This is a good time to plant or transplant trees and shrubs or divide perennials. If a shrub is overgrown and requires renovation, it's best done in late winter just prior to new growth.

Winter was extremely harsh in many areas. Many evergreens and species that are marginally hardy experienced foliage browning and branch dieback. Don't rush to prune back the affected areas. Let the plant initiate new growth and then prune branches and stems that are obviously dead. Now is also a good time to have large trees thoroughly inspected for dead and broken branches, cracks in stems and branches and other problems caused by winter storms.

For plants that leaf out slowly or exhibit other signs of stress, have the soil tested for nutrient and organic matter content and soil pH. To help maintain vitality and promote growth, routine fertilization is fine for healthy trees and shrubs, but prescription soil treatments based on soil analysis is best on plants that are in poor health or damaged by winter storms. Other remedial treatments include proper mulching and irrigation during periods of low rainfall. Many defoliating insects including gypsy moth, winter moth, tent caterpillars and cankerworms appear in early spring just when leaves emerge. Monitoring and treating to prevent damage from these pests are also critical to maintaining or improving plant health. ■

Get Electronic *Tree Tips* – Plant a Tree!

When you use our link below to enroll in our paperless program, you can choose to plant a tree. We'll sponsor you for the Arbor Day Foundation's reforestation project. **www.bartlett.com/newsletter**

Find your client code in the yellow box on the reply card included with *Tree Tips*. It looks like the sample at right. Then, go to the registration link and sign up.

You can always return to mail service if you prefer a printed copy of *Tree Tips*. ■

Find out about reforestation at: **www.arborday.org/replanting**

Ask Your Arborist: They work where you live

Wherever our Arborist Representatives go, people want to know about problems on their own landscapes and about what can be done to improve the health, beauty and safety of their trees and shrubs. In addition, the Bartlett Research Laboratories is the best resource hands-down to answer the wide-ranging questions people ask about the science of arboriculture.

Our coverage area has expanded to include more climates and hardiness zones. Each zone has special needs and problems differ from region to region. And by far, for us, the desert climate and plantings are the most different.

As Bartlett's Arborist Representative in Mesa, Arizona, Dominique Piche answers questions from clients and the interested public about tree and shrub care in a desert climate all the time. This unique environment presents its own set of problems and benefits. An excerpt from an article that Dominique wrote for a local publication follows:

Question: "I have several queen palms in my yard. Some fronds look "frizzled" at the tips and the new fronds come out looking "dwarfed". What is going on?"

Answer: Queen palms are tropical plants that do poorly in the desert. They struggle with our high dry heat, clay soil, lack of Manganese, and other macro and micronutrients. There is also a tendency to overwater them to compensate for the heat, which creates its own set of problems. A few hours of freezing temperatures will damage the frond tips. Their lifespan is short (up to 20 years at best) and the older the palm, the more it struggles.

Under those circumstances, having a perfectly healthy looking queen palm year round in the Phoenix metro area has proven very difficult. An I.S.A. Certified Arborist will be able to analyze the unique conditions your palms are growing in and recommend an appropriate course of action, if not the selection of a more desert-adapted plant or tree.

Question: "I just moved to Arizona from Illinois and I am not familiar with desert plants. Do they need to be fertilized?"

Answer: Bartlett Tree Experts has been in the Phoenix area for over 8 years now. Thousands of soil analyses show that we have obvious nutrient deficiencies. Our soil pH is very high, reducing the nutrient uptake. We have very little, if any, organic matter. Our soil is made of clay, which has no drainage properties. Soil compaction is often an issue. Caliche is an obstacle to humans (try to dig!) and plants (roots cannot penetrate caliche). Under those circumstances, choosing native or desert-adapted plants and trees for your landscape is the best long-term, hassle-free solution. Palo verdes, mesquites, and oleanders can thrive without fertilization. Non-native plants such as queen palms, orchids, jacarandas, or any plant that is stressed due to excess or lack of water, disease or pest, will often benefit from the additional nutrients of a good slow-release fertilizer.

An I.S.A. Certified Arborist can analyze the unique conditions your plants are growing in, determine the need to fertilize, and if need be recommend an appropriate fertilization treatment.

It seems clear that landscapers should focus on the use of native plantings that are adapted to the climate and soil of their region. The introduction of non-native plants that have different requirements will involve remediation treatments at some point to keep them in good condition in a desert climate.

If the property owner realizes this and wants to keep non-indigenous plantings, that's a landscaping choice and is neither "right nor wrong." The choice therefore, is in the degree of care required to maintain plantings in a healthy state.

Our Bartlett Arborist Representatives are available to help clients make informed planting decisions for all the regions we service. ■

Expect Canker and Dieback Diseases in Spring

Canker diseases are caused primarily by weakly pathogenic fungi that invade twigs, branches and stems through wounds. Canker pathogens generally colonize the outer rings of sapwood causing sunken lesions that can girdle the infected plant part at the site of infection. In some cases, canker fungi will colonize dead twigs and branches and then progress into adjacent living tissue during periods of stress. Water deficiency and freezing injury are the two most common predisposing stress factors to canker pathogens.

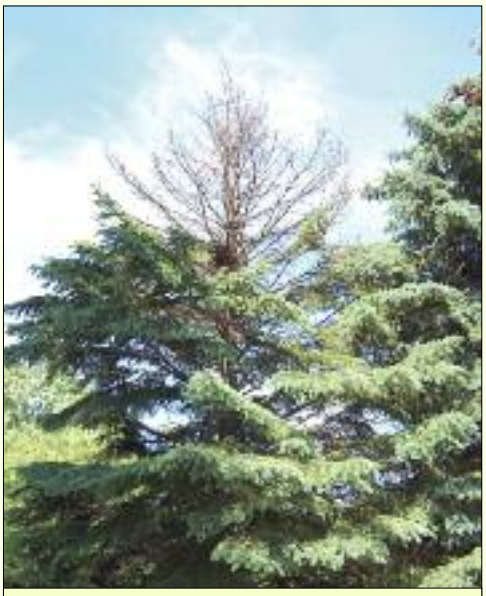
Canker redbud

Most areas in the eastern US and Canada have experienced extremely low winter temperatures that will result in canker and dieback on many landscape plants. Symptoms will not become evident until spring when affected portions of the plant do not leaf out. In many instances, branches and stems may produce leaves in spring and then collapse later in the growing season when demands for water increases. Species that are very prone to canker following freeze injury include: rhododendron, azalea, boxwood, Japanese holly, redbud, dogwood, cherry laurel, cherry, crabapple, Leyland cypress, and Japanese maple.

The pattern of canker development on freeze damaged tissue is unique in that the outer portions of the xylem including the current years sapwood may not be colonized.

With freezing stress, the canker pathogen often selectively colonizes sapwood that is two to three years old before progressing into the outer ring of tissue. So in initial stages of disease development, cross-sections of stems and branches will exhibit dead and discolored tissue in the inner rings of growth whereby the outer most portion of the stem may still be green and appear healthy.

With canker diseases, delay pruning of infected tissue until mid-spring after the plant has leafed out. Plants may compartmentalize stem infections especially if stress can be alleviated and plant vitality increased. Mulching and irrigation when needed are essential to improving plant vitality. Fertilization may also aid in recovery but nutrient applications and pH adjustments on diseased plants should only be performed based on soil analysis results. ■



Dieback canker in fir

Reference:
Infectious diseases of trees associated with water and freezing stress. Schoenweiss, D.F. JOA 7:13-19.

Biological Control to Protect Landscape Plants

Biological control is a component of an integrated pest management strategy that uses living organisms to suppress pest populations. It can be as simple as planting flowers as pollen sources to attract and sustain predators or as complicated as going to a pest's native habitat and importing natural enemies. Biological control is a component of an integrated pest management strategy. By using natural enemies to their full advantage, property owners can save money as well as protect the environment.

Hypoaspis soil mite

Conserving natural enemies that are already present in a landscape means providing a safe habitat for them. This is be accomplished by judicious use of pesticides that are applied only when it is found to be necessary through regular plant inspection. Choosing the least toxic treatments to effect pest suppression will have less impact on non-target organisms such as bees and natural predators. Providing diverse species composition in landscape will also sustain a greater diversity of biological control.

Naturally occurring biological controls can be augmented with the release of specific beneficial organisms. Bartlett Tree Experts has been offering beneficial releases within our Monitor Pest Management Programs for more than fifteen years. Traditionally, we have relied on releases of convergent lady beetles, green lacewings and praying mantis to help suppress soft bodied insect pests such as scale crawlers, aphids and leafhoppers and trichogramma wasps for caterpillars and leaf beetle larvae. Predaceous mite releases have been particularly effective in suppressing spider mites and related plant feeding mites. Recently, we added a second species of predaceous mite into our arsenal, the western predaceous mite. This particular species thrives in hot summer weather so it augments the neoseiulus mites that we have been highly effective in our programs on cool season mites.

Rove beetle Photo: Joseph Berger

For 2009, two additional beneficials will be employed in our Monitor Pest Management Programs:

Predatory Rove Beetle (Atheta): Rove beetles are soil-dwelling predatory beetles which feed on other insects, mites and their eggs. Rove beetles also feed on slug eggs. Rove beetles are common in forests, but are usually not common in landscaped areas. Releases of rove beetles can help return landscaped environments to a more natural balance.

Hypoaspis Soil Mite: Hypoaspis is a native species of soil-dwelling mite which feeds on small insects and mites. Adults are tan in color and less than 1 mm long. Hypoaspis are used to control weevils, thrips and gnats in the soil. Hypoaspis can also survive as a scavenger, feeding on algae and plant debris. Populations will naturally fluctuate throughout the growing season. Hypoaspis is supplied in a pasteurized peat/bran mixture containers with a shaker lid for distributing the mixture over the soil. ■

Getting Around Hedges

A hedge is literally a wall comprised of living plants. The origin of hedges goes back to ancient times when farmers planted and cultivated them as a means to contain livestock. Today, they are planted for ornamental purposes in formal gardens, as a means to define property boundaries, to provide privacy, to screen views and to serve as barriers to wind and noise.

Selecting plant species for hedging requires careful consideration of ornamental characteristics as well as cultural requirements of the plant. Considerations include deciduous versus evergreen, ultimate height, texture, hardiness, light requirements and, most of all, ability to tolerate frequent pruning. When hedges are planted to define a property border, it is very important to use a pest resistant species because it may not be possible to treat infestations without having the treatment drift to the neighbor's property. Treatment can only occur if neighbors grant permission so if you are planting the screen because you don't like your neighbor, pest resistance is paramount! If the hedge is planted to provide a wind barrier, obviously plant a hardy species that does not desiccate readily. A salt tolerant species is essential where hedges are planted to screen busy roadways in northern areas where deicing salts are frequently used.

Inspecting your hedge

Popular shrubs for low growing hedges include privet *(ligustrum)*, holly, osmanthus, viburnum, the laurels *(prunus)* including cherry laurel and English laurel, taxus and boxwood. Boxwood is widely used in formal gardens as "edging" but this species is prone to decline even with the best of care. Taxus also is used extensively in formal plantings and is one of the best evergreens for hedges as long as deer are not present. Unlike most narrow-leaf evergreens such as juniper, hemlock and pine, taxus can be reduced in size (rejuvenated) if needed and will produce new growth on older branches. Thuja (arborvitae or red cedar) also have this trait.

Conifers that are commonly used for tall hedges include thuja, white pine, Leyland cypress and hemlock. Certain deciduous tree species include hornbeam *(carpinus)*, beech and linden. Deciduous trees are among the most interesting and also easiest to maintain for hedges. Conifers can be more challenging: all these species are highly sensitive to pest problems such as deer, spider mites, adelgids, scale insects and root disease. If you plant conifers, make sure to budget for future pest management in the future and make friends with your neighbor if the hedge is located on a property boundary. With the exception of thuja, conifers can not be rejuvenated if they become overgrown or if they die-back.

Hedges are usually maintained by shearing, which removes some of the new growth each year. This produces a dense formal appearance. Shearing also causes interior growth on the plant to be "shaded-out" and die leaving just a thin shell of live foliage on the exterior portion of the plant. If that shell of live growth is damaged by freezing temperatures, desiccation or pests, that could cause the plant to decline. So periodic pruning of the hedge is recommended to thin out the outer shell of foliage to allow light and air to penetrate interior portions of the crown. This will maintain growth on interior portions of the crown.

When shearing plants, make sure the lower portions of the hedge are wider than the top. This ensures that light reaches the lower portions of the crown and helps maintain vitality of those branches.

Periodic fertilization of hedges is important to maintain health of these plants. However, avoid excessive fertilization that promotes lush growth and increases pruning requirements. Fertilization, pH modification and organic amendments should be based on soil analysis.

Plants that are hedged are generally more prone to insect pests because the dense branching provides protection and favorable habitat for development. The numerous shoots produced following shearing also provide a suitable food source. Shearing also produces numerous wounds that can be entry point for disease organisms. For these reasons, hedges should be monitored carefully throughout the growing season to facilitate early detection of infestations. Treatments should be applied before pests reach damaging levels.

Ask us about the condition of your screen plantings and shrubs. We can let you know if they need vista pruning, thinning, renovation or shaping to improve their overall health. We'll also take a look for any pests or diseases that may be appearing and answer any questions you've got about your plantings. ■

ASK DR. BRUCE

Question: I am looking for information on transplanting fir trees as it relates to zone 5 (North-Central Mass.) I recently transplanted 25 fir trees, all six to seven ft. tall. The project started early September and ended mid-October. The temperature was in the 60's when I started but now is in the 50's and drops down to the 20's at night. What can I do to protect these trees, to keep them from freezing and to keep them alive through the winter? Should they be mulched and with what? Should they be fertilized? I built a well around each tree to hold a small reservoir of water and I watered them twice a week. The trees all look very well. They are not wilting, have not yellowed or lost needles. The soil I removed from the holes was not very good, consisting of loam, silt, clay and some shale. I removed all of the debris and treated the soil with tree and shrub potting mix, peat moss and organic compost from cow manure. I planted them in holes measuring 36"x36"x12". The balls measured approx. 30'x30"x8'. Any advice you can give me will be very much appreciated. Thank you for your consideration in this regard. ***Guy Gagnon***

Answer: Certain tree species are considered a "fall (autumn) planting risk" meaning that trees of this species have a higher risk of failure and poor growth when planted in the fall. Fir is one of the species listed as a fall planting risk and it is recommended that planting only be done in the spring. There is much speculation as to why some species don't transplant successfully in the fall months but, the fact is that we do not fully understand the reasons for this.

Ensuring the plants have adequate soil moisture before the soil freezes is important. Mulches applied to the soil will also help conserve moisture and promote root development and establishment. Fertilization now will not influence establishment but should be considered in spring. Finally, any protection that can be given from wind would be helpful in preventing desiccation. ***Dr. Bruce R. Fraedrich***

Question: There is a twin trunk which has been pruned properly over the years but recently has started to lean towards the house. I took out a dead twin two years ago, some 60 plus feet tall. How do I gauge it's health? The roots were severely damaged years ago.

Arnold Sutherland

Answer: If the angle of the lean of the tree appears to be changing, the tree could be in the process of failing structurally. This is not uncommon following root damage. Decay organisms can invade damaged roots that can structurally weaken the tree causing it to fall.

There are several methods to determine if the angle of lean is changing. You should contact a consulting arborist who is qualified to evaluate the tree and determine if removal is warranted or if other treatments could reduce the risk of failure to acceptable levels. ***Dr. Bruce R. Fraedrich***

Using Forest Ecology Principles to Encourage Wildlife

While we tell clients to remove dead or dying trees that pose safety risks, there are some circumstances and properties where keeping a partially removed tree can promote some other goals and enrich the landscape.

There is "life" in dead trees. The death and decomposition cycle in nature serves a purpose that is often overlooked by property owners who wish to maintain neat and structured landscapes with design standards. On the other hand, property owners with wooded "forest" areas already benefit from this life (and death) cycle.

As dead trees or "snags" decompose they provide food and shelter to hundreds of species of animals, insects and birds. Nature takes care of it's own. Insects that live in dead trees aid in the decomposition of the wood. In turn, these insects provide food for woodpeckers, chickadees, nuthatches, owls, hawks and wrens, to name a few species. Decay cavities provide shelter for birds, bats, squirrels and some reptiles.

Encouraging wildlife to share living space is a preference of the property owner. Some people want to watch the activity of natural life going on around them. I admit to being one of those. I enjoy watching the birds, squirrels, chipmunks and wild rabbits that have built their burrows and nests around my home and share my space.

Others may view wildlife as an intrusion and choose not to encourage inhabitation.

If you're on the yes side of the fence, there are several ways to bring a diversity of wildlife into the garden. Dense shrubbery that is strategically placed provides hiding places and shelter for birds and keeps them safe from predatory hawks and cats. Old "nurse" logs left on the ground will decompose and generate a rich food source as they are colonized by fungi and other organisms that break down and recycle nutrients into the soil, enhancing it.

Artificial nesting boxes and birdhouses encourage wrens, swallows and other species that prefer to live in cavities. Plantings in the garden can encourage butterflies and hummingbirds.

The pictures in this article have been provided by our Kenmore, Washington office, where keeping snags for ecological benefit is a regional practice.

By understanding the role that dead and dying trees play in an urban environment, we broaden our concept of what urban landscaping is. This shift in perception fosters an attitude that supports a more diverse animal population around our homes and manifests itself in a more vibrant, healthy ecosystem. ■

Foliage haven

Natural birdhouse

Branches trimmed for perches

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