

## Sub-surface Fertilization versus Mycorrhizae Injections

One of the most common questions asked by our clients is what is the difference between Fertilization and Mycorrhizae? Both are applied the same way: subsurface soil injections place the products in the root zones of plants. However, the products are totally different from one another.

**Fertilization** supplies essential nutrients, like nitrogen, potassium and iron, required by plants for healthy growth and metabolic processes. Plant nutrients are akin to vitamins for people — when deficient, growth slows or stops and diseases, disorders, and discoloration occurs. Nutrient deficiencies may occur when plants use them up for growth or where construction or top soil removal has resulted in barren soils. Fertilization replaces deficient nutrients in the soil. Our subsurface fertilization blend contains a mixture of slow release nutrients to supply the correct amount of nutrients necessary for healthy plant growth.



Photo: Lyle Feilmeier

Sub-surface fertilizing by Sr. Plant Health Care Tech: Jeff Kowalski

**Mycorrhizae** is a natural beneficial root fungus that helps trees and shrubs absorb water and nutrients. The tree roots and the mycorrhizae form a symbiotic, or beneficial, relationship. Mycorrhizae is common in natural forest settings, but urban trees and shrubs are often lacking in mycorrhizae. Urban trees struggle to grow because of disturbed, compacted soil, heavy clay, and nutrient deficient soils. The need for beneficial mycorrhizae is greater in urban soils because of these harsh unnatural soil conditions.

Over 30 years of research has shown mycorrhizae benefits trees by:

- Improving feeder root development
- Improving water and nutrient absorption
- Protecting against soil diseases
- Improving tree longevity and survival
- Increasing survival rates of transplanted trees

The results on the growth and health of trees and plants treated with mycorrhizae have been dramatic. Both fertilization and mycorrhizae services are recommended to give your plants that boost for healthy growth and longevity.

## We're Here to Help

Collier Arbor Care is here to assist you with your tree, shrub and lawn care needs. If you would like more information on any of our services listed below, please give us a call or visit our website for valuable plant information.

Plant Health Care Programs  
Targeted Insect & Disease Treatments  
Pruning & Removals  
Fertilization & Soil Treatments

Organic-based Lawn Care  
Hazard Tree Analysis  
Tree Planting  
Consulting & Diagnosis

503-722-7267 (503-72ARBOR)  
www.collierarbor.com

# Garden Calendar

See our website at [www.collierarbor.com](http://www.collierarbor.com) for a 12 month calendar!

## March

- Fertilize trees and shrubs.\*
- Plant cool season crops: lettuce, cabbage, peas and cauliflower.
- Check lawns for damage by crane fly grubs and treat if necessary.\*
- Divide perennials like hosta, daylilies, and peonies.
- Treat early blooming flowering and fruit trees like peaches, plums, flowering plums and cherries for disease problems.\*
- Plant new trees in landscape.\*

## April

- Reseed bare areas in lawn, overseed thin areas.
- Treat for leaf blight diseases on dogwood, sycamore, and flowering trees.\*
- Prepare garden soil for spring planting if it is dry enough.
- Plant vegetables; cucumbers, carrots, onions, radishes.
- Treat diseases on fruit trees like apple scab, brown rot and blossom blight on cherry trees.\*
- Check trees for leaf feeding caterpillars and treat if needed.\*
- Control slugs by baiting or beer traps.

## May

- Fertilize lawns. Also apply weed control if necessary.\*
- Fertilize rhododendrons and azaleas.\*
- Control moles by trapping.
- Inspect and treat plants for aphids, use insecticidal soap, for leaf-feeding insects use B.T. or pyrethrins.\*
- Plant warm season vegetables; corn, tomatoes, peppers, potatoes, pumpkin, squash.
- Place pheromone traps in apple and pear trees to detect codling moth. Plan a control program of sprays, traps or predators.\*
- Aerate lawns to improve rooting, relieve compaction, improve uptake of nutrients, and better water infiltration.\*

## June

- Treat for adult root weevils in rhododendrons, azaleas, primroses, viburnums, and other ornamentals.\*
- Use composted mulch to conserve moisture and prevent weeds around plants.
- Lawn mowing: set blade height for 1.5 to 2.5 inches for most lawns. "Grass cycle" by returning grass clippings back to the lawn with a mulching mower.
- Prune spring flowering shrubs like azaleas, rhododendrons, forsythia, and lilacs after blooming.\*
- Shear hedges: arborvitae, boxwood, and laurel after spring growth.\*
- Trees infected by spring diseases will begin dropping foliage. Prune out infected branches. Rake up and destroy fallen infected leaves. Fertilize to encourage new growth.\*

\* Services performed by Collier Arbor Care

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# THE Arbor Advisor

Your Prescription for a Healthy Landscape  
SPRING 2004

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Photo: Lyle Feilmeier

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## New Tree Pest:

# Bronze Birch Borer

People in the Willamette Valley now have a new landscape pest to deal with — the bronze birch borer, an insect native to North America. For years it has caused problems in the northeast and central part of the United States, but has only just recently been found in the Willamette Valley. Bronze birch borers are known to attack all native and introduced birch species. Trees that are weakened or stressed by drought, old age, insect defoliation, soil compaction, or a stem or root injury are most susceptible to attack.

**Description:** Adults are small beetles with a bronze body. The larvae stage is the most damaging. The larvae are white with a light brown head.

**Symptoms/Damage:** The first symptom of a bronze birch borer problem is often yellow, sparse, stunted leaves in the upper portions of the tree which may progress to twig and branch dieback if larval populations are high. A sure sign of bronze birch borer damage is raised bark welts or ridges on the bark, caused by larvae tunneling beneath the bark. Repeated attacks by the larvae eventually disrupt nutrient transport and can lead to tree death. Also when the adult emerges, it leaves a distinctive D-shaped exit-hole about 1/5 inch wide in the bark. These D-shaped exit holes may be stained with rust colored sap.

**Life cycle:** Adults emerge from previously infested trees between early May and early June. They then feed on the leaves of the birch, eventually laying eggs in bark crevices and cracks. Larvae hatch from the eggs and immediately begin to mine into the bark. The larvae damage trees by feeding on the



Photos © Forestry Images 2004



(Top Left) Bronze Birch Borer Adult  
(Top) Hole made from Bronze Birch Borer  
(Left) Destructive Larvae of Bronze Birch Borer



inner bark and overwintering within the galleries. In spring the larvae pupate into adults within the galleries, thus completing the life cycle.

### Management:

Management strategies that improve tree health will reduce susceptibility to the borer. Proper cultural practices include watering during dry, hot periods; mulching; avoiding wounds or injury to the tree; and pruning out dead and dying branches. Trees are unlikely to recover once 50% or more of the crown is damaged. Severely infested trees should be promptly removed and destroyed to reduce local borer populations.

Systemic insecticide drenches around the base of stressed or lightly affected trees can prevent or help control outbreaks. Borer populations can also be reduced by applying insecticides to the bark to kill larvae before they enter the tree. All birch species can be attacked but the two most susceptible, the European birch and the white-barked Himalayan birch, are the most widely planted in our area.

Call Collier Arbor Care to help protect or treat your favorite birch trees from this new problem.

## Anthracnose of Dogwood, Sycamore and Maple Trees

Anthracnose is a fungal blight that infects Dogwood, Sycamore and Maple trees during the wet spring months. This disease affects trees by causing leaf blight that can lead to pre-mature leaf drop and in protracted infections, twig dieback and death. As is the case with most foliar diseases, wet weather is a huge contributing factor in the establishment and development of anthracnose. Most tree and shrub diseases tend to disappear from our landscapes as drier weather conditions arrive. Applications of foliar fungicides in the spring and dormant seasons help to protect newly-forming buds from infection.

Once leaf material has become infected with anthracnose, there is little that can be done to control this disease until new



Photos: Terrill Collier

growth replaces the fallen leaves. In severe cases anthracnose can become a systemic infection causing tip and branch dieback that can lead to significant branch loss within the trees canopy.

Thinning and deadwood removal pruning can help to reduce the conditions within the trees canopy favorable to disease establishment. By opening up the trees canopy, light penetration into and air movement through the trees canopy can help to reduce disease damage. We can treat anthracnose on a preventative basis, contact our office to schedule an inspection of your landscape



(Far Left) Dogwood leaves infected with anthracnose  
(Left) Sycamore with anthracnose

## Featured Tree:

### Paper Bark Maple (*Acer griseum*)

When thinking of what to plant for that special focal point in your landscape, Japanese maples are what usually come to mind. Consequently, northwest landscapes have an over-abundance of them planted. Consider then the exceptional, but overlooked and under-utilized paper bark maple – *Acer griseum*.

Introduced in 1901 from China, the *Acer griseum* was basically ignored until recently. Originally the species was hard to propagate. Since then, it has slowly become available to the discriminating gardener. The paper bark maple is deciduous with a rounded canopy at maturity and a height of 20-30 feet. The leaves are trifoliate (three leaves) with soft, light green tops and silvery hue on the bottom. In the fall the foliage turns an extremely bright orange and red.

The main attraction of this gem of a tree is the bright cinnamon exfoliating bark. It has four-season appeal and an extraordinary silhouette against a winter landscape. Our nursery has a good supply of this specimen tree available for planting in your landscape.



Photos: Lyle Feilmeier



(Above Left) The bright cinnamon exfoliated bark adds to the tree's four-season appeal.  
(Right) The paper bark maple has reddish cedar-like bark, and feathery soft textured foliage.

## Proper Tree Planting

The ideal time to plant trees and shrubs is in the dormant season, starting in fall, after leaf drop to early spring before bud break. However trees that are properly cared for in the nursery and with follow-up care after planting, can be planted throughout the growing season. Make sure you check for underground utilities and have them located prior to digging.

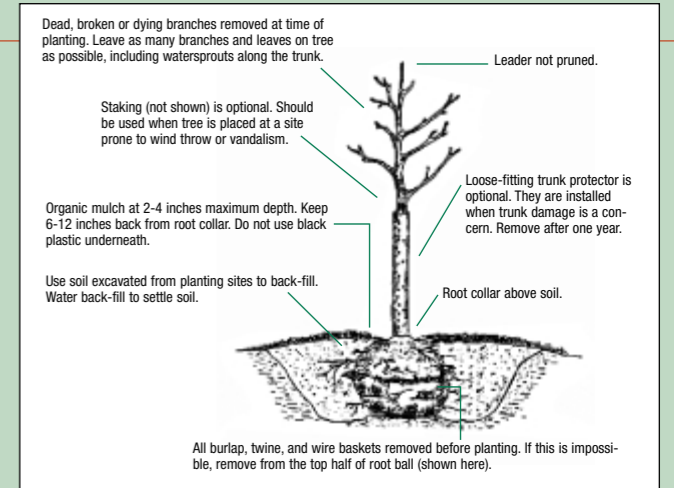
**Digging:** Dig a wide shallow hole making it close to three times the size of the root-ball, but only as deep as the root-ball.

**Identify the Trunk Flair:** The trunk flair is where the roots spread out at the base of the trunk. This will help you to determine how deep the hole needs to be.

**Plant the Tree at the Proper Height:** Remove all the twine and burlap from the root-ball. Note: If the root-ball is dry, you may want to leave burlap intact until the tree is planted—then remove the burlap. The top of the root-ball should be at or near the soil surface. It is better to plant a tree a little too high, no more than 2 inches, than too low.

**Straighten Tree:** Make sure you straighten tree in hole before you begin to backfill and view tree from several directions.

**Backfill the Hole:** Fill the hole about one third full and firmly pack. Add water to eliminate air pockets that may



cause roots to dry out. Continue this process until hole is filled and the tree is firmly in place.

**Stake Tree if Necessary:** If a tree is grown and dug properly at the nursery, staking for support is not necessary. If staking is necessary, remove them after one year.

**Mulching:** Add 1 to 2 inches of an extra fine compost or mulch to the drip-zone area of the tree. This will act as a blanket to hold moisture, protect against harsh temperatures, and reduces competition from grass and weeds.

