Currituck Garden News

November 2014

Tree Troubles - Part 2

Last month we looked at how trees make, use and store food. We also looked at some of the things that can cause a tree to become stressed. This month we will continue with our series on tree troubles but switch our attention from the canopy to the roots. Roots absorb and transport water and nutrients that move up the trunk and into the branches. The leaves lose water, collect carbon dioxide and light, and manufacture food, which moves down the branches and trunk and into the roots. Most active roots occur in the top 12 inches of soil. Roots develop and survive where plenty of oxygen and moisture occur. The heavier the soil, the closer to the surface roots will be because they need oxygen. Roots cannot grow well below heavy hardpans or in flooded or compacted soils. A layer of clay below the soil surface can cause water to accumulate and form a perched water table. The excess water forces the oxygen out of the soil pores above the clay layer. Shrubs planted over a clay layer will often die from over watering and root rot.

The soil supplies trees with water and nutrients and is frequently responsible for the poor performance of many shade trees. Soil characteristics influence water infiltration and movement, water and nutrient retention, and aeration. About half the volume of an ideal soil consists of pore spaces filled with air and water. Soil pore size determines air movement and root growth. Excessive traffic or construction, especially when the soil is wet, destroys the soil structure. Compacted soils restrict root growth and interfere with the absorption of water and nutrients. If the soil is compacted, drill holes 4 to 6" deep, 2 to 3 feet apart, using a drill with a 2" auger. Boring holes in compacted soil can increase soil aeration and water penetration into the root zone.

Plants that are planted too deep, planted in water logged soils or if existing trees are covered with an additional layer of soil, become stunted, decline and even die. Planting trees and shrubs too deep is a very common cause of plant death. Planting too deep suffocates the roots. Tree and shrub roots must have oxygen to grow and survive. Plants will spend years growing roots close to the surface. If a plant is planted too deep or if the roots are covered with a layer of soil back fill, it causes a sudden change in the availability of oxygen. Sensitive trees may die from just 2 inches of back fill. Covering the roots with too much soil is like putting a pillow over a person's face. There's simply not enough oxygen to survive. This is especially true if plants are in waterlogged soils that don't drain well or if they are being over watered. The roots slowly suffocate and die. The trunk flair (top of the root ball) should be planted slightly above grade to allow room for a 2 to 4" layer of mulch. Mulch should never be placed in direct contact with tree trunks.

Mulch should never be more than 4" deep and it should never come in direct contact with the trunk.

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The Garden News is published to provide you with educational information, upcoming programs and opportunities on gardening issues. Feel free to share with others.

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Tree Troubles - Part 2

Soil pH influences tree growth by affecting solubility of nutrients and the activity of microorganisms. Soils with high pH, above 7.8, are highly alkaline and have little iron or manganese available for trees. Under acidic conditions (low pH), manganese and aluminum may reach toxic levels. Soil samples can be collected and sent to a lab where the pH and fertility can be checked and recommendations made according to what plants you are trying to grow. Checking the pH and altering it suit the needs of your plants will help ensure that trees are not growing under stressful conditions which can lead to weakened trees that decline and die.

Figure 1 Figure 2 Figure 3

A girdling root is one that circles the base of a tree at or just below the surface. Expansion of the root and the trunk squeezes them against each other, interfering with the transport of water, nutrients, and sugars. The threat of a girdling root depends on two major factors: the size of the root and the percentage of tree trunk being squeezed. The resulting damage to the tree is reduced vigor, marginal scorching on the leaves, canopy discoloration and/or dead branches. (Many of these symptoms can also be caused by other factors such as root damage, flooding, or wilt diseases.)

Normal trees have a gentle trunk flair or buttress at their base (Fig. 1). Trunks that grow straight up from the ground as though they were a telephone pole can be suspected of having girdling roots (Fig. 2). Trunks with a concave depression on one side may also have a girdling root (Fig. 3).

Development of girdling roots is normally the result of unfavorable conditions, which prevent roots from growing out in a normal spreading manner. A good example is a container-grown plant, where the roots are often forced to grow in circles. If these roots are not pruned at the time of planting, this growth pattern can cause girdling roots. Root pruning is an absolute must for any container-grown tree or shrub at the time of planting. Three to five slashes are made vertically down the sides of the root ball and about 1" into the root ball. One or two slashes into the bottom of the root ball or removing the bottom inch or two from the bottom of the root ball will also help eliminate circling roots. Whatever the method used, circling roots must be loosened and redirected. If girdling roots are causing trees to decline, they should be pruned and removed whenever possible. Restricted root space, such as tree pits in urban areas, also may result in girdling roots.

Tree girdling roots.

Damage from cuts, scrapes, lawn mowing, weed removal with a weed eater, or pressure from ropes, ties or chains on trunks and branches can girdle trunks and branches as well. Injuries like these interfere with the transport of sugar, nutrients, and water between the roots and the canopy. If more than 50% of a tree's trunk is girdled, it will decline and die.

Coastal NC Daylily Society

The Coastal NC Daylily Society held their last meeting of the year in November. They will meet again next year on March 17, 2015. Membership is not required. Come join the fun and develop a love for daylilies. Follow the Daylily Society on Facebook.

https://www.facebook.com/pages/Coastal-North-Carolina-Daylily-Society/125225507684178

How to Make it Bloom

Thanksgiving cactus (Schlumbergera truncate) and Christmas cactus (Schlumbergera bridgesii) are popular, fall and winter blooming houseplants. When grown under normal day light conditions, Thanksgiving cacti normally blooms near Thanksgiving approximately one month before Christmas cacti bloom. Another member of the group sold as holiday cacti is the Easter cactus (Rhipsalidopsis gaertneri), which flowers primarily in the spring and sporadically throughout the year with pink or red flowers. During the fall, the Thanksgiving and Christmas cacti depend upon long nights and cooler temperatures to set their flower buds. These plants should receive 14 or more hours of uninterrupted darkness for at least 6 weeks to initiate and encourage setting buds.

Poinsettias are another plant that require long nights to initiate blooming. If you saved your poinsettia from last year and you want it to re-bloom, provide 14 hours of darkness for 9 to 11 weeks. Be sure to place them back in a sunny location during the day. Orchids on the other hand do not require long nights to bloom. Orchids need a 10 to 15 degree temperature change between day and night to initiate blooming. In the fall, placing them outdoors or in a garage (55 to 60 degrees) during the day and bringing them indoors (70 degrees) at night will help provide the necessary temperature change. Just remember not to put them in direct sun or they will burn.

To force daffodil and other bulbs to bloom indoors in the winter, pot up bulbs between September and December. Use a well drained potting mix and plant the bulbs so the nose will be even with the top of the pot. After planting, water the medium throughly and place the pots in a refrigerator at 35 to 48 degrees. The medium should be kept moist but not wet during the cooling period. Store the bulbs for at least 13 weeks (15 is preferred). After the required cooling period, the pots can be brought in the house and placed in a sunny window for 3 to 4 weeks. Once the flowers begin to open, take the plants out of direct sunlight so the flowers will last longer.

Daffodil

Thanksgiving Cactus

Poinsettia

Phalaenopsis Orchid

Master Gardener Training Program

Master Gardeners are members of the local community who enjoy learning, gardening and volunteering. Master Gardeners receive intensive training from their local Cooperative Extension center. In return, they volunteer to help Extension staff meet community needs by sharing research based information on sustainable gardening. In addition to their role as a gardening information source, Master Gardeners host a Flower and Garden Show each spring, a Fall Plant Sale in September, maintain a demonstration garden and a community garden, manage a greenhouse and work with youth. The Currituck County Extension Master Gardener program is currently accepting applications for individuals to become volunteers. Anyone with an interest in both gardening and volunteer services can apply. Applicants should be comfortable working with a diverse group of people and willing to share their knowledge with both new and experienced gardeners. Classes begin on January 13, 2015 and end on April 7, 2015. Students will meet every Tuesday from 9:00 am to 12:00 noon. The fee for the class is $100. Contact Deborah Foster 252-232-2262 to obtain an application.

Extension Master Gardener
NC COOPERATIVE EXTENSION

Currituck County Extension
http://currituck.ces.ncsu.edu/

For additional information on any of the contents of this newsletter call or email Debbie Foster at 252-232-2262, deborah_kelso@ncsu.edu

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Mission, Vision and Goals

North Carolina Cooperative Extension partners with communities to deliver education and technology that enrich the lives, land and economy of North Carolina.

For accommodations for persons with disabilities, contact the Currituck County Center at 252-232-2262 no later than five business days prior to the event.

Fall Pruning

Pruning can resume again this month after taking a break during August, September and October. In November we can prune Abelia, Arborvitae, Beautyberry, Boxwood, Butterfly-bush, Clethra (Summersweet), Cotoneaster, Eleagnus (Russian and Autum Olive), Euonymus, Gardenia, Rose of Sharon, Juniper, Osmanthus, Photinia, Privet, Ligustrum, and Yew.

For a complete pruning calendar see:
http://go.ncsu.edu/pruning_calendar

Follow the Currituck Master Gardeners on Facebook.

https://www.facebook.com/CurrituckMasterGardeners

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