

Currituck Garden News



October 2014

Autumn in the Garden

Please Share This Newsletter

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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Cooler weather is beginning to set in. When frost is in the forecast, towels and blankets can be placed over shrubs and annuals to keep moisture from settling on the leaves and freezing. Fall vegetable gardens will also need some extra protection. Floating row covers, hoop houses and cold frames can extend the growing season by several weeks. These types of covers trap the heat that rises from the ground during the night. Floating row covers are placed over the garden and anchored to the ground to hold it in place. Hoop houses are made from PVC bent into semi-circles with plastic or fabric draped over them. Cold frames can be constructed using cinder blocks or bails of straw and an old window or glass door. Hoop houses and cold frames should be vented during the day to regulate the temperature and prevent moisture from building up under the cover.



If you still have tomatoes on the vine, full sized tomatoes can be picked prior to frost and ripened indoors even if they are green when you pick them. To protect fall crops from cabbageworms and other caterpillars, use weekly applications of *Bacillus thuringiensis* (Bt). Bt is a naturally occurring bacterium that kills insects but is safe for people and wildlife. Bt can be purchased under the trade name of Dipel or Thuricide. Now is also the time to think about things we can do to make our gardens more successful next year. Cleaning up our gardens and flowerbeds now will help prevent diseases in the future. Leaving diseased foliage and plant material lying around will provide a source of inoculum for next year's infections. Remove and destroy diseased materials. Do not put them in your compost bin.

If you are through with your garden for this year, consider planting a cover crop. Rye is a great cover crop for gathering and holding unused nitrogen in the soil. Rye also brings potassium up through the soil profile to increase potassium levels near the soil surface. The fibrous roots of Rye will increase soil drainage. Rye has allelopathic properties that act like a natural herbicide to inhibit the germination of some weeds. A crop of rye will also outcompete small seeded, light sensitive annual weeds such as pigweed and chickweed. Incorporating rye into the soil will add organic matter, which improves the soil structure, increases infiltration and water holding capacity, and increases the soil's ability to store plant nutrients. Rye can also be planted with legumes such as crimson clover or alfalfa. Legumes enrich the soil by fixing nitrogen. This is a process where atmospheric nitrogen is converted to an inorganic form of nitrogen usable by plants. In the spring, cover crops should be mowed and tilled under at least 30 days prior to planting the garden.



Cereal Rye, Crimson Clover and Hairy Vetch being grown as a cover crop.



Tree Troubles - Part 1

Over the summer, we received numerous calls regarding unhealthy trees and how to save them. There are an endless number of things that can cause a tree to become stressed, decline and or die. To understand why a tree declines, we must first understand how a tree lives. Over the next few months we will explore the world of trees and the complex systems that control how well a tree performs.

This month we will start with the basics and look at something we all know and love... sugar. Leaves and young stems contain a green pigment called chlorophyll. Any part of the tree that is green performs photosynthesis, using sunlight, water and carbon dioxide to produce sugar. The sugar can either be used to provide energy to the leaves, or it can be transported to the stem and roots, where it is either used or

converted to starch for storage. Approximately half of all sugar produced is used for maintenance of the trees' living parts. Unused food is stored as starch and is metabolized back into sugar for growth as needed. Stored energy is used during the winter and at night.

Sugar is also used for growth of the roots, stems and branches. Fine feeder roots must be continuously replaced. Primary growth of shoots must occur each spring to produce new leaves. Enough sugar must be stored in the roots and stem to maintain the root system over the winter months, and to support the growth of new leaves in the spring. Healthy trees produce 8 to 10 times more sugar than they consume. If growing conditions are favorable, enough sugar is produced for all maintenance, growth and storage requirements. If the tree is stressed by insects, disease, poor weather or is growing in an environment where that species is not normally found, a greater proportion of the sugar will need to be used for maintenance.

Continued on page 3

Its Not Too Late

If you missed the Master Gardener Fall Plant Sale, don't worry because its not too late. The Master Gardeners still have mums and pansies left over from the sale. Mums are \$3 each and pansies are \$2 for a 6" pot.

A wide variety of colors are still available.

Contact Deborah Foster for more information 252-232-2262.



NE NC Daffodil Society

The fall meeting of the Northeast North Carolina Daffodil Society will be held at NC Cooperative Extension, Currituck County Center located at 120 Community Way in Barco on Saturday October 25, 2014. Registration for the meeting will start at 9:30 am. The meeting will be called to order at 10:00 am and end at 2:00 pm. The morning will start with a short business meeting followed by recognition of new members and those who worked at the spring show. Our featured speaker is Ms. Glenna Graves American Daffodil Society (ADS) member, ADS accredited daffodil judge and instructor. Glenna has been show chairperson as well as President of the Garden Club of Virginia, and the Washington Daffodil Society. She has been very active with ADS and many of its national and east coast daffodil shows. Ms. Graves will speak on growing show quality daffodils. The speaker will be followed by a bulb exchange and a pot luck lunch. The public is invited. Membership is encouraged. Come enjoy the day with daffodils.

Tree Troubles - Part 1 continued

A branch or twig must make and store all its own food. Food for next spring's growth is stored in the last few annual rings of wood close to the branch tip. Leaves on every branch or twig must produce enough food to feed that branch or twig. Food does not move from the roots or other branches to supply a starving branch. Branches unable to support themselves are sealed off and die. Deep within the tree canopy, light intensity drops quickly. Light levels within the canopy may be so low that leaves cannot make enough food to survive. Small branches within the canopy that cannot produce enough food to sustain itself will die. As trees age or experience competition from adjacent trees for sunlight, lower limbs succumb and the live crown ratios shrink. Older trees do not recover as quickly as younger more vigorously growing trees and if a tree cannot grow every year, it will decline and die.

Starch is how most trees store sugar for producing new leaves the following year, producing new roots during the winter and early spring, and re-foliating itself when something bad happens during the growing season. When stressors like drought occur, they reduce the amount of sugar made in the leaves, resulting in a drop in the starch reserves. When defoliation occurs it causes the tree to use stored energy to re-foliate. Combine these stressors or when they keep coming year after year, trees lose their energy reserves, slow their growth, and are susceptible to insects and diseases that prey on weakened trees. Indicators of a weakened tree are branch dieback and smaller than normal leaves. Insects are able to locate weakened trees because weak trees give off a different scent than healthy ones.

The number of hours a tree receives light during the course of a day will regulate vegetative and reproductive activity. Day length can influence leaf drop, fall color and the onset of dormancy. The long days and short nights of spring and summer promote vegetative growth. The short days of late summer and fall slow vegetative growth and initiate overwintering activities. Streetlights can artificially shorten night length and promote continuous growth. As a result, sensitive trees may begin growth too early in the spring or fail to stop growing in the fall, which could lead to cold injury. Some trees are more photoperiod (day length) sensitive than others. Light sensitive trees should not be planted near light poles and streetlights.

Extreme temperatures or untimely changes in temperature can create tree stress as well. Sudden temperature drops in late fall before trees harden-off can result in severe injury. A temporary warm spell in late winter or early spring will cause trees to leaf out prematurely and lose hardiness. A subsequent drop in temperatures will injure the new and tender foliage. High temperatures during the summer can also cause injury by desiccation (drying out) when transpiration greatly exceeds moisture absorption.

Trees under stress have more simple sugars (rather than starch) and more free amino acids rather than complex proteins in the sap making them more nutritious to scale than healthy trees. This can lead to higher than normal scale populations. By getting the tree into top growing condition scales will not reproduce as prolifically. Trees planted near roads and parking lots live in environments that are warmer than those planted in rural areas. A two degree difference in temperature can cause a drastic increase in scale populations. Street Trees in the hottest parts of the city have far more scale insects, sometimes 200 times more than those in the cooler parts of the city. A couple of degrees warming can make the difference between a healthy tree and a tree loaded with dead branches and sparse foliage caused by the heavy feeding of an extremely high scale population.



Scale insects on a tree branch.

Extreme weather, defoliation, and attack from insects and diseases can take their toll on trees. When trees are continually exposed to these conditions year after year or when several of these occur at the same time, the effects can be significant. Prolonged stress can result in a tree depleting its energy reserves, poor subsequent growth, predisposition to pest and pathogens and eventual death.

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.

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Pumpkins



After you pick or purchase that perfect pumpkin for halloween, thanksgiving or making pies, there are several things you can do to make it last. Dip that perfect pick in a 10% bleach and water solution (1 part bleach to 9 parts water). The bleach will kill the bacteria that causes your pumpkin to rot. Then, place it on a piece of cardboard to keep it from making direct contact with the ground, sidewalk or porch surface.

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Master Gardeners
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