TREE HEALTH INFORMATION

This question and answer information sheet is part of a Tree Health Video project conducted for the Town of Huntington by Councilman Mark Cuthbertson. The Nursery & Landscape Program of Cornell Cooperative Extension of Suffolk County assisted in this educational effort.

Questions:

How can I tell if a tree is diseased or dead?

It can be hard to tell when a tree is **diseased or infested with insect pests** unless the tree begins to exhibit symptoms of stress: leaf drop/leaf symptoms (scorch, curling, yellowing, etc.); early leaf drop; overall canopy decline; mushroom growth; trunk cracks; water sprouts, etc. These symptoms can vary depending on the type of tree (deciduous versus evergreen) and species. The earlier that a disease or insect pest is detected, the easier it is for an arborist to correct the problem. Most insect or disease problems are the secondary problem and they are a result of poor cultural practices such as incorrect irrigation practices, incorrect planting, poor drainage, poor soil, (improper- could be too much also- not just not enough) - fertilization, etc. If you provide a healthy habitat for root development, your result should be a healthy trunk and canopy.

Dead trees are a very sad sight. If your deciduous tree doesn't leaf out in the spring then that is a very bad sign. If you can reach a stem, examine the buds (are they swollen?); If the buds look dead, cut back the stem to see if there's any life to the tree. Dead stem tissue will be brittle and snap when you try to break them, while live stem tissue will be softer because of the water within the plant cells.

If the foliage of your evergreen tree begins to change color—starts turning yellow to brown—then your tree is experiencing some sort of stress. If all the foliage is brown and left on the tree, your tree is likely dead. Evergreen trees drop SOME of their leaves every year (spring or fall depending on the species) —this does not mean your tree is in trouble. Older leaves are shed while new leaves are formed; it's natural. Some evergreens are deciduous and will drop all their needles in the fall, e.g. bald cypress and tamarack. Trees that change their fall color early before all of the early trees are most likely under stress. An example would be a Red Maple changing color in September, as opposed to all of the other maples around the area that generally change color in October.

If you think your tree is under stress, take a sample of the affected tissue (leaves, stems, etc. not dead!) to your local extension diagnostic lab (Oakdale or Riverhead). Or have a certified

arborist visit your property for a diagnosis. When **taking a sample** it should be taken with the marginal area between bad and good. A totally dead sample will not give much info nor will a totally healthy portion. Disease especially can be detected many times in this marginal area.

When is a tree so far gone that it becomes a liability?

A tree becomes a liability when it becomes hazardous to person and property. It is especially important to assess trees that have a particularly vulnerable target such as buildings, power lines and people. The liability should be based on both the condition of the tree and the damage it could cause if it falls.

A leaning tree does not necessarily signify a potentially hazardous tree. Tree health, site conditions, and probability of failure must be evaluated. If the canopy has declined to the extent that 50 percent or more of the canopy is dead or dying, consult a certified arborist for further evaluation.

What do you do when a tree is too sick to save?

After you get proper diagnosis from an arborist or your local extension diagnostic lab…If the tree is small enough, the homeowner can remove it and have it disposed of off-site, especially if it was diseased or infested.

If it's a mature specimen, a tree removal service should be contacted for safe removal of the sick tree. An arborist should always check out the tree before that decision is made since removal of mature trees from a property can have a dramatic impact on the landscape. Where there was shade…there is no longer, home values, etc.

Can we talk about best management practices?

Planting, watering, mulching, and pruning

When **planting a tree**, it is essential to expose the root collar to the open air. Having the root collar area covered with excess soil or mulch will lead to the development of girdling roots and decay. The tree should be planted level with the existing grade. Do not plant the tree higher or lower than the existing grade. Also, removal of the burlap and twine on the top of the root ball should be performed during the planting process. Cut any wire baskets. The wire baskets can girdle roots as they grow in size, causing decline of the tree as it reaches maturity. The top of the ball is not necessarily the level where the tree should be planted. Be sure that this is the root collar area when planting.

You can review proper planting practices at the International Society of Arboriculture website.

For newly planted trees, it's important to **supply water** as needed. About 1 inch of water per week is needed for good establishment. It would be great if rain could provide this benefit, but more than likely water needs will have to be supplemented. Apply water as a slow drip from the hose, or use water bags or tree rings to provide a slow release of water to the root zone. Slow application avoids run-off, and encourages saturation of the root zone instead. Once a tree has become established (1 or 2 growing seasons), regular irrigation should not be needed. Continued supplemental irrigation will keep a tree from spreading its roots. The tree will not want to develop roots outside of the irrigated area in search of new supplies of water and nutrients. This can result in a less stable tree as it grows in size. BUT, trees of all ages can benefit from supplemental irrigation during very **droughty periods**. Mature specimens need water less frequently but even they can benefit. Stress from lack of water can show up on larger trees even years later. Any time you can lessen the stress on trees they will be healthier now and in the future.

Apply a **2-3 inch mulch** layer to the root zone…more mulch is NOT better. This may act as a barrier to water reaching the root zone, and other issues! Coarse mulch versus shredded will last longer and better discourage weed growth. Mulch does NOT have to be applied every year. Examples of mulch include hardwood mulch, bark, or pine needles. Finely ground hardwood mulch can become hydrophobic over time which will inhibit the penetration of water into the soil. The coarser the mulch, the better—I prefer bark chips, or pine/spruce needles (for conifers). I also like the use of shredded leaves, though many people like to dispose of their leaves… Be certain not to mulch right up against the trunk since this may cause rot issues—the trunk needs good air circulation. As the tree grows, expand the mulched zone to match the canopy width. Mulch is important because it moderates soil temperatures and moisture levels. This will lessen the chance for root dieback due to freezing, overheating, or drying out. It will also reduce the need for supplemental irrigation. Grass is not a good mulch layer since it competes for water and nutrients, and it may lead to mower or weedwhacker damage to the trunk. Studies have shown that competition with turf for water and nutrients will result in over a 50% loss of the fine root system of the tree. These roots are essential for water and nutrient uptake. Without these roots, a tree will be under constant stress especially during the hot summer months when water is needed the most. A tree under stress is subject to pressures from insect and disease pests that can reduce the lifespan of a tree.

Pruning may be necessary for some trees to encourage good canopy development. Any dead or diseased limbs should be removed. Most pruning is done during late winter to early spring

before active growth. Young tree structural pruning to develop proper canopy form is highly recommended. Structural pruning will train the tree to grow in a form that will provide the strongest branch development as the tree grows into a mature size. This will minimize the potential for storm damage in the future and reduce the need for pruning when the tree reaches a mature size. Dead or dangling limbs should be removed as needed. It's best to contact a certified arborist for proper pruning since bad pruning can stress a tree out and reduce its overall vigor…and make it look bad!

Are there ways to protect trees before a big storm?

By practicing best management practices (proper planting, watering, mulching, and pruning), choosing species that will do well on your property with the growing conditions your property offers (sun/shade, soil type), and by having an arborist evaluate your trees every now and then. Proper preventative maintenance on trees such as fertilization, integrated pest management, crown thinning/cleaning, cabling/bracing, and hazardous tree removal should be considered annually. Trying to protect a tree the week before a hurricane comes can be a futile effort and you never know which day a heavy thunderstorm will arrive in your area. Preventative maintenance should be budgeted on a regular basis. Mature healthy trees that have been cared for generally need to be thinned and cleaned every 5-7 years. Unhealthy trees require a more frequent pruning cycle.

I think that even healthy trees should be at least checked if not pruned every 3-5 years but this is dependent of the health and type of tree.

Can we discuss proper pruning of trees?

Remove dead or hazardous limbs.

If you decide to prune your young tree, never remove more than 25% of the foliage within any given year. Leave mature trees to the professional. Mature trees are less tolerant of heavy pruning than a young, vigorous tree. Pruning too much on a mature tree will jeopardize the tree's health, exposing it to the risk of insect or disease infestations. Leave the mature tree pruning to the professionals.

Are there ways to protect trees during construction?

YES! Fence off around the tree beyond the dripline. You want to protect that vulnerable root zone from compaction and also discourage injury to the trunk. Having an arborist overseeing the construction and acting as your liaison with the site superintendent will allow you to reach the goal of finishing a construction project and preserving the tree. I very much agree with

this and it is seldom done. It can have benefits for many years into the future if damage to trees and especially the root zone is a priority during construction.

A few tips:

It's important **to water trees during a drought**. Lawn/landscape irrigation usually isn't sufficient. Shallow watering practices (applying water in small increments) leads to shallow/weak root development. Some trees, once established, can be very drought tolerant. Many of these trees are used as street trees.

If you do have grass **around your tree, hand trim grass** so you don't injure exposed roots (do not go over with a mower, sharp blade or weedwhacker.)

Avoid putting weed/feed products on grass anywhere near the trees' root zone. Better yet, **avoid having grass grow around your trees**.

Avoid fertilizing without having a soil test done first. **Soil tests provide valuable information** like soil pH, and soil nutrient levels. For mature trees, it's better to practice good mulching and watering than applying fertilizers. Too much fertilizer can make your tree prone to disease and insect pests.

CHOOSE THE RIGHT TREE FOR THE RIGHT PLACE. Try native species that do well on Long Island, and choose trees from your local garden shop. They'll have a selection of trees and cultivars that thrive in this area. Remember to read the tree tag. This will have information like preferred growing requirements, and overall form, mature size and growth rate.

It is important to stress using qualified people to make decisions on tree health, pruning and removals. Too many trees are improperly pruned; trees are removed unnecessarily and trees that are unsafe are left to become a liability. It is not an exact science and **decisions should to be made by qualified, experienced arborists**. A second opinion is also a good idea especially with trees that may be borderline unsafe or somehow questionable.

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Helpful Resources:

* **International Society of Arboriculture** (www.isa-arbor.org) to find a qualified arborist in your area.

***Cornell Cooperative Extension of Suffolk County Web Page**: http://ccesuffolk.org/

***Suffolk County Cornell Cooperative Extension Horticulture Diagnostic Laboratories**:

West End: Bayard Cutting Arboretum located in Oakdale (April-November). Please call 631-581-4223 for hours of operation.

East End: Cornell Cooperative Extension Riverhead Office. Monday-Friday 8:30 am-4:30 pm.

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