Urban Tree Culture

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Conway, SC — July 25, 2008 – Adding trees to the urban landscape can provide numerous benefits to the homeowner as well as the commercial landscape several ways. Trees can increase the value of your property by providing an aesthetic benefit. Trees will produce oxygen, consume carbon dioxide and are considered carbon sinks. Properly placed urban trees can help improve water quality by reducing soil erosion, slowing storm water runoff and cleansing the soil of pollutants. Trees can also improve your quality of life by reducing noise pollution, acting as a windbreak and provide shade, cooling hard structures.

Trees become part of a landscape in one of two ways. Either the trees located on the property where there before the landscape was developed and construction was conducted around them. Or, the property was devoid of trees and, once construction was been completed, trees were planted. Either route can provide a landscape full of healthy trees providing the many benefits mentioned earlier.

Tree selection is the first step in developing a healthy landscape. Of course, if existing trees in the landscape have been saved and no room is available for adding more trees, tree selection is of no concern. However, if the landscape is barren, tree selection becomes an important issue.

Two of the most important factors, among many others, to consider with tree selection are mature tree size and growing conditions. During your research of trees, make sure you note the mature height and width of the various trees you may want to plant in your landscape. Be sure the site and the tree size match. Planting large trees in small areas will eventually lead to an overgrown look and may lead to poor pruning practices as you try to keep your tree inbounds. The size of the tree at planting can also be a factor in tree survivability. In most species, the smaller the tree coming out of the nursery, the easier it is to get it established.

The other important factor to consider is the site growing conditions. This starts with examining the soil conditions, especially drainage conditions. Sandy soils with good drainage are generally easier to work with than poorly drained, clay soils. On poorly drained sites, smaller trees which have shallow root systems may be the better option. In these conditions, the large root balls of big trees may be submerged into saturated conditions, making tree establishment difficult.

Root ball characteristic is another factor to consider when selecting trees from a nursery. The shape, depth and size of a tree's root ball are determined by the way the tree was produced in the nursery. Trees grown directly in the ground are called field-grown. Trees can also be grown in containers which can affect the size and shape of the root system. Trees may also be delivered bare root. Field-grown trees that have been properly harvested and hardened off are generally the best choice for any kind of site. Container grown trees will have a proportionally smaller root system than field-grown trees but will have a larger number of fine roots. Due to this, container grown trees will dry out quicker than field-grown trees and may not be suitable for droughty conditions.

Many factors go into the decision making process of tree selection. One that many gardeners are becoming more aware of is fall color. Several trees native to South Carolina will provide wonderful fall foliage color under the right conditions. For those wanting red fall color, you can select blackgum, black cherry, dogwood, Hornbeam, red maple, red oak, persimmon, sassafras, sourwood or sweetgum. If you want fall color more in the yellow range, you can choose beech, birch, hickory, redbud, sycamore or poplar trees.

The tree selection and planting process occurs thousands of times along community streets, in public parks and in home lawns every year in the United States. Unfortunately, many of these trees do not survive beyond two years after planting. The reasons for this can be varied but usually can be diagnosed as one of several problems.

Most newly planted trees are subjected to various stress related problems due to the large amount of root loss when the trees are dug at the nursery. This is more common in bagged and burlapped trees where the tree has been grown inground and is commonly referred to as transplant shock. This somewhat weakened state may increases the plants susceptibility to drought, disease and insect problems. Transplant shock may actually last until the natural balance of the root system and the crown is restored. Of those newly planted trees that do not survive, the most die during this root establishment period. Getting a newly transplanted tree to survive will involve regular care during the early stages of root development.

After planting, care of your new tree is vital to its health. Soil moisture is especially important for the first three years following transplanting. Watering practices will vary based on soil type and weather conditions but one inch of water per week for the first growing season is a good rule of thumb. Trees planted in sandier soils may need more water than this and those in clay soils may need less. Be aware that most inground irrigation systems will not provide enough water for a newly planted tree to survive, especially during droughty conditions.

Finally, your trees may need the addition of fertilizer during its life to remain healthy and vigorous. Fertilizer is not food but rather a way to supplement nutrients that may be absent from the soil. Fertilizers should not be considered a cure for poorly growing trees that are suffering from improper selection, poor planting practices or inadequate post-planting care. You should fertilize trees based on two ideas: (1) fertilize your trees when it will benefit the overall health of the tree; (2) use the right amount, in the right formulation, at the right time and placed properly.

You can consider the following items to help you decide if your trees need fertilization:

Soil Test: have your soil tested to determine the soil pH along with the level of nutrients present.

Growth: monitor your trees for signs of poor growth. This would include poorly colored leaves, small leaf size, small leaf number, premature leaf drop, poor annual growth and branch death. Poor growth could be attributed to a lack of fertilizer but can also be caused by numerous other problems.

Planting Age: fertilizer application during the early years of establishment can speed up top growth, filling the trees allotted space in the landscape. Slow-release fertilizers are ideal for young trees.

Location: trees planted in a turf area that receives scheduled fertilization may not need any additional fertilizer as the roots will absorb some of the nutrients that the turf does not get. However, trees placed in beds or naturalized areas may need some additional fertilizer, especially in sandy soils.