

Archive for December, 2008

Roots

Sunday, December 7th, 2008

Tree roots are active, opportunistic extensions of the tree that provide support, and supply water, oxygen, and essential elements needed to feed the tree and sustain its life. The **total tree** consists of the following (approximately) percentages: 5% leaves, 15% branches, 60% trunk, 15% large transport roots, and 5% fine feeder roots. Needless to say, if roots are severely damaged, dire things can happen to the tree.

Roots can be damaged in many ways. Extremes of temperature, drought, and frost heaving in the upper layers of the soil can kill many of the delicate non-woody feeder roots. Dead feeder roots cease doing what they are known for: feeding the tree! Damage by root eating organisms living in the soil (such as nematodes) can be a serious problem in some locales. Digging by humans also takes a toll on roots, particularly in urban areas. New roots form rapidly after injury (depending on the overall health of the tree before the injury), but there is a limit to just how much root damage a tree can withstand before serious impacts on health and growth occur. The severing of only a few large transport roots quickly reduces the total system that sustains the tree.

Roots will also die (sometimes rather quickly) when the oxygen supply in the soil is cut off by soil compaction, flooding, or construction of large, impervious paved areas on top of the ground.

Some things to keep in mind about tree roots:

1. A few species have a taproot that grows straight down for 3+ feet, or until it encounters impenetrable layers of soil or rock, or reaches layers with little available oxygen. The main function of a taproot is anchorage and support for the above ground parts of the tree.
2. Most roots lie within 8-12 inches of the soil surface, and usually extend outward to a distance one to two times the height of the tree.
3. The feeder roots, with their tiny root hairs, provide the major portion of the absorption surface of the tree's root system, and it is through these roots that the elements needed for survival and growth travel.
4. There are between four and eleven major woody roots that grow horizontally through the soil. They branch and taper over a distance of three to fifteen feet from the trunk to form an extensive framework that is needed to structurally support the tree against wind, etc.

Understanding how roots really work should help when deciding what to plant where. More information about roots can be obtained through a variety of sources, but a good place to start is with your regional Missouri Department of Conservation office. One of the foresters stationed there should be able to provide specific references that have worked for them, or they may have handouts already prepared that summarize the information in a popular format.

Mulch

Saturday, December 13th, 2008

Proper mulching of a tree in an urban setting is one of the best practices the homeowner can do to enhance the tree's growth and development. Many professional foresters and arborists are fond of saying

that mulch is a tree's best friend. It is true that mulch can significantly improve growing conditions, but it must be applied properly, or some dangers could result that adversely affect the tree.

I have included below a pdf version of a guide sheet produced by the Missouri Department of Conservation that explains the benefits of mulch and provides guidance for properly applying mulch. Following the guidance in this helpful publication should help you "get 'er done" correctly.

<https://mdc.mo.gov/sites/default/files/downloads/mulch.pdf>

Winter

Sunday, December 21st, 2008

Here I sit, on the first day of winter. It is 12 degrees outside with a wind chill of 12 to 20 below zero, but I feel pretty good. I'm in fair health, I'm warm and well fed (maybe too well fed, in fact), and today is my 51st wedding anniversary. The rest of my family is safe and doing OK, and will soon be coming for their Christmas visit. So, while I'm doing pretty good myself, I still can't help wondering how the trees outside are doing.

Winter can be a tough time for trees. However, our native species are used to the vagaries of Missouri weather, and can do quite well on their own, if they are healthy and do not get injured by some environmental factor they cannot control (e.g. an ice storm, drought (yes, even in the dormant season, drought can be a problem), wind, etc. Our trees don't need to suffer at our hands during tough times like these, so please, be careful if decorating a favorite evergreen with Christmas lights – don't break twigs and limbs needlessly; don't pour hot water on drooping limbs covered with ice, just so they'll "thaw" more quickly; be hesitant to use a lot of de-icing materials on driveways if there's a chance the residue will wash over your favorite tree's roots once a thaw occurs. Remember – your trees need your careful care and protection all year long.

So.....as we get ready for the Christmas and New Year holidays this week and next, let's remember all the good things our urban trees provide, even during the tough winter weather we'll be experiencing for the next three months, and be thankful that they are out there standing vigil as we while away the winter making our plans for the upcoming planting and growing season; it's not really that far off!

In the meantime, be nice to each other, and best wishes from this old blogger for:

A VERY MERRY CHRISTMAS AND A HAPPY NEW YEAR!!!!

Building In The Trees

Monday, December 29th, 2008

It's been my experience that most (not all) homeowners, who build their own home "out in the woods", are one of two types: they either clear the lot completely, or they try to retain every tree on their piece of heaven. The lot clearers either don't want the trees already there, or they have succumbed to the siren call of the contractor who says, "it will be a lot cheaper to build if I don't have to work around all these trees." The tree retainers probably realize that some trees must be removed from the site, but they don't want any removed that do not need to be out of the way of the foundation and/or house itself. Building in a forested area can be a tricky business, and expensive compared to building in the open, unless a systematic approach is planned in advance and followed religiously by the contractor.

In general, new homes with large, healthy trees will sell faster and at prices 10 to 15 percent more than homes with few or no trees. Why, then, would anyone develop land and needlessly destroy trees, when it makes good sense, both environmentally and economically, to preserve these assets? Basically, they are ignorant of the values involved, or they have a tradition of clearing land before building, or (perhaps most importantly) they lack information about how to save trees during construction.

In a systematic (or planning process) approach, there are several steps to be taken, and one does not, necessarily, need to be a professional forester, arborist, landscape architect or designer, etc. to utilize the approach. The basic steps are:

1. Develop a stand delineation map of the building site. This provides an overview of the trees and other natural attributes as well as the limitations of the building site.
2. Do (or have done) a tree survey of the site. This step identifies each tree by species, size, and location on the lot.
3. Develop a tree conservation plan, in consultation with the contractor(s), so they (and you) will know, from the beginning, what to expect during the construction phase.
4. Construction administration. This step involves overseeing the on-site protection and care of the trees selected to remain, and there are many techniques available to do this. Too many, in fact, to list here. More detailed information about building in the trees is available from arborday.org/bulletins or your local **Missouri Department of Conservation** office.

The key to successfully building in the trees is communication, during all phases, between the contractor(s) and the owner(s) or his/her representative. A designated person responsible for doing the communicating, from each side, should be involved from start to finish, in order to make the communication line as simple as possible.