



Mulching — The Natural Thing To Do by Dr. Rex A. Bastian, Ph.D.

The Care of Trees, October 1989

"What is the best single thing I can do to help my trees and shrubs?" In many cases, the correct answer can be stated in one word — MULCH. Why? Because mulching more closely parallels with how trees grow in nature.

Next time you are in the woods, take a close look at the trees. Notice that there is a deep layer of leaves on the surface. Reach down and dig a little bit. You'll observe that beneath the leaves, there is a rich layer of decomposed plant material. Growing through this layer are many fine roots. Now look around you. Try to determine to which plants those roots belong. You'll probably see very little grass, and if the tree canopy is dense, probably very few other plants as well. The roots that are growing very close to the surface are tree roots. The roots are present in this organic layer because the water, nutrients, and oxygen they need to grow are all found in abundance. As this material decomposes, the nutrients it contains are returned to the soil for the tree roots to absorb. Each fall, the trees shed their leaves which fall to the ground and continually replenish this biologically rich layer.

Now take a look at the trees in your own yard. What do we see here? Instead of a thick layer of decomposing plant material, we find a thick carpet of grass. If we try to dig through the grass, we may find some tree roots, but they are few in number compared with the grass roots. Little trace of the layer of decomposing plant material can be found. When the trees drop their leaves, we are there to rake them up and to haul them away.



Perhaps you are beginning to understand the problem. When we plant our trees in a sea of grass, we are forcing them to grow in an unnatural situation. Most of a tree's roots are found in the top 40 inches of the soil. Of those, the majority are found in the top 12 to 18 inches. Grass roots, of course, occupy this same zone and are intense competitors with tree roots for water and nutrients. When root competition is combined with other urban problems such as poor soils, restricted root zones, mechanical injury, and air pollution, it is no wonder that some of our trees perform poorly. By mulching our plant materials in the urban landscape, we attempt to duplicate the conditions in which trees grow in nature. (cont'd. page 6)

(Mulching continued)

Just what do we mean by mulching? Mulching is simply the addition of a ring of an organic material around the base of your trees and shrubs. Many suitable materials are available, but one of the most convenient is shredded wood chips. Wood chips are readily available, inexpensive, easy to work with, long lasting, and attractive. By replacing turf with mulch, we can improve the conditions in which our woody plant materials must grow.

Anyway you look at it, mulching is one of the best things you can do for your plant materials. Not only does it help to conserve moisture around the tree's root zone, it helps to keep the soil cooler in the summer and warmer in the winter. Also, mulching helps to prevent "mower blight" around the base of the trunk. Mower blight occurs when attempting to remove the grass that is growing right next to a tree trunk with power lawn mowers. If the lawn mower hits the base of the trunk, portions of the bark can be torn loose, resulting in wounds that can seriously harm the tree. A ring of mulch will eliminate the need to mow close to the base of the tree, reducing the chances of contact between the mower and the tree.



What quantity of mulch is needed? First, the larger the mulched area, the better. The most desirable situation would be to forget about the turf and to mulch the entire yard. Of course, this is seldom practical, so try to mulch as large an area as possible. Simply place the wood chips on the ground, right over the top of the turf. As far as depth is concerned, a 3 to 4 inch layer works best. At less than 3 inches, the grass will not be smothered and will make a valiant comeback. Depths greater than 4 inches can actually harm the tree by reducing the roots' ability to obtain oxygen (remember, roots need oxygen just like we do).

One more thing, make sure you keep the mulch pulled back (4 to 6 inches) from the tree trunk. Moist chips, if kept in continual contact with the bark, can promote attack by certain insects and diseases.

When mulching with fresh wood chips, fertilizer should be broadcast over the top of the mulch layer. This fertilizer provides nutrients to the microorganisms that will decompose the wood chips. Without the added fertilizer, the microorganisms will use nutrients from the soil around the tree roots, reducing the nutrients available to the tree and partially defeating the purpose of the mulch. Use a rate of 1 to 2 pounds of actual nitrogen per thousand square feet of mulched area.

In summary, mulching attempts to duplicate the way trees grow in nature. It reduces competition from turf, conserves moisture, and helps reduce trunk injury. Give mulching a try. It certainly is one of the best things you can do for your plant materials.



