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How Proper Mulching Helps Your Trees

Applying mulch to the soil above a tree's roots is probably the most cost-effective and invigorating treatment a homeowner can give his trees. How can this be?

Trees naturally growing in the woods never live on bare ground. They have their own system of self-mulching as their leaves, twigs and other shed tissues accumulate around their bases. This litter covers the ground and slowly degrades into its component chemicals. It is only on urban sites that trees are forced to rely on man's largess to receive this treatment they normally give themselves.

Use of organic mulch has great benefits for yard and street trees. It improves the physical and chemical properties of the soil. Urban soils are often compacted and mulching of the soil surface will slowly improve that compaction. As the mulch decomposes, activity by beneficial microorganisms and invertebrates increases.

A layer of mulch acts as a buffer between the soil and the atmosphere. It holds moisture in the root zone during dry periods. Likewise, it can lower water percolation during downpours to minimize the chances of oversaturation of the soil. It has the added benefit of reducing soil erosion during heavy rain.

A mulch layer can also moderate soil temperature. It acts as a blanket to insulate the soil and roots from the air temperature extremes.

Mulch can inhibit growth of grass and weeds around your tree. This has the benefit of reducing interspecies root competition and allowing more room and nutrients for the tree's root system. If you go back to the woods and look at the understory, grass is rarely a component of that system. That is because grass and trees have different water and sunlight requirements. Grass likes frequent watering whereas trees normally prefer their water given less often. Studies have shown that tree root volume under a grass layer is greatly reduced compared to tree roots growing under mulch.



Another benefit of mulching is the prevention of "moweritis". This is a non-scientific term for that damage that occurs to roots and trunks from use of mowers, weed eaters and other lawn equipment. Hand-weed mulched areas or use Glyphosate (Roundup) for weed control. Glyphosate will damage any green foliage it hits, so use care when applying it. Don't spray when it is windy and use the lowest pressure and largest spray droplets possible to avoid pesticide drift.

Now that we see the benefits of proper mulching, let us examine what materials should be used for that mulch.

Organic mulch is always better than inorganic materials. Gravel, shredded tires, landscape fabric or other such products never deteriorate and may contain substances toxic to trees. Feel free to use these around plastic plants, but avoid their use around living trees.

Acceptable mulches include shredded bark, composted wood chips or leaves, pine straw and similar organic media. Refrain from using fresh wood chips since they can deplete soil nitrogen as they decompose and that can limit nutrient availability for the tree. Some fresh wood chips also encourage growth of organisms called artillery fungi. The fruiting bodies of these fungi are small, but they explosively discharge sticky spore masses that resemble tar. These can stain the paint of nearby cars or buildings.

Fresh grass clippings should also be used with caution or avoided entirely. They may affect soil pH (the measure of acidity) and often contain weed seeds that germinate and cause problems.

The organic mulches decay and will need to be refreshed periodically. The frequency of this replenishment is based on the type of mulch, with finer (smaller) media decaying faster.

Mulch should be applied to a uniform depth of about two inches. Looser mulches like straw can be spread a bit thicker, but deep layers of anything can reduce soil oxygen. Do not use plastic or other edging that penetrates your soil around the mulched area since that can inhibit tree root spread.

Most of a tree's feeder roots are in the top few inches of the soil and the roots extend at least as far from the trunk as the tree is tall. Cover as much of this root area as you can with mulch. Leave an unmulched area immediately adjacent to the tree's trunk (about six inches). This helps to avoid conditions of excessive moisture at the tree's root collar.

One practice to forgo is the piling of excessive mulch. This often happens when homeowners rake leaves or pine needles into the mulched area. Over time, this practice (called volcano mulching) can create conditions favorable for decay development at the base of the tree.

By: Andrew J. Boone, CF

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Correct



Incorrect