

Mulch Volcanoes—A Harmful Practice for Trees

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Too often the mindset is if a little is good then a lot must be better. So it goes with the spring task of mulching. A “mulch volcano” is the tongue-in-cheek term given to those copious heaps of woodchips surrounding a tree. No one knows exactly where this harmful practice came from but all it takes is for one person in a neighborhood to do it and suddenly this ill-advised practice is everywhere.

There are two detrimental effects to mulch volcanoes. First, roots respire, meaning they take in oxygen and release carbon dioxide. This exchange of gases, as it is known, takes place in the upper 18 inches of soil. It’s no accident that roots proliferate in the top 18 inches because this is where oxygen is most readily available. Bring in a boatload of mulch and suddenly the lower roots no longer have access to oxygen. This leads to stressed and dying roots which in turn stresses the tree. A stressed tree has less defenses than their properly-mulched counterpart, leading to susceptibility to otherwise-minor insect and disease problems.

The second detrimental effect of a mulch volcano has to do with the tree trunk. Tree bark is well suited to protecting the trunk from sunlight and wind. Mammoth piles of mulch surrounding a trunk, however, keep bark constantly moist, fostering decay. Over time the bark rots, exposing the conductive tissue beneath the bark to decay as well. This negatively impacts the trunk’s function to move water upward/sugars downward and the structural integrity of the tree. (I once walked through a neighborhood after a windstorm and every tree lying on the ground broke below the mulch volcano, showing lots of symptoms of decay.

Written as an equation, it would appear as:

Too much mulch = stressed roots + rotting trunks → unhealthy trees → increased susceptibility to (otherwise minor) insect and disease problems + structural instability = more \$ to treat + increased probability of tree death.

What is proper mulching? A two to three inch layer of shredded bark or woodchips, starting two inches from the tree and extending out to a distance of 4 feet from the trunk is best. Never use landscaping fabric as this interferes with the exchange of gases at the root zone. Mulch decays over time, which enriches the soil, so renew the mulch as needed to maintain a depth of 2-3 inches.

What can you do? Ask your landscape manager about their tree mulching practices and, if it is done incorrectly, ask them to re-do it. Neighborhood associations and SIDs can share information within their communities to educate those who like to do the work themselves. Make sure your own trees are properly mulched, talk about it with others and then show it off!

The benefits of proper mulching are manifold—suppression of weeds, cooler soils in hot weather, protected soils in cold weather, keeping string trimmers and mowers away from tree trunks, and fostering microbial activity for healthy roots. The time and effort to properly mulch is well worth the effort for vigorous growth and a happy tree.