



HG 803

Not for Resale

Commercial Landscape Series: Mulch Problems

Mulch quality varies considerably depending on type and supplier. Be sure to inspect the mulch carefully and make sure that it is high quality. Mulch is generally beneficial to plant growth. However, if the wrong kind or too much is used, it may be detrimental to plants. Keep mulch several inches away from the trunk or main stem to prevent retention of moisture and the possibility of crown rot diseases. Organic mulches should not exceed three inches in depth. Although organic mulches break down over time, they should be replaced only

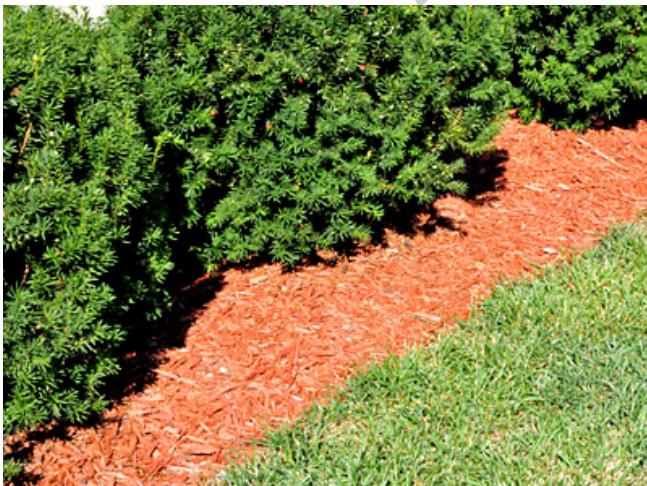
as needed to maintain their original depth. Excessive mulching may encourage certain plant species to establish roots in the mulch layer rather than the soil underneath. Over time, this can lead to root death due to desiccation during dry weather when the mulch dries out more quickly than the soil. Irrigation of mulched plants should be carefully monitored to ensure that water percolates through the mulch layer into the soil. Insufficient watering may wet only the mulch layer while the soil remains dry.



Tree planted at proper depth with thin layer of mulch.



Excess mulch piled up against tree trunk. Depth is approximately one foot.



Proper application of dyed red mulch in landscape bed.



Proper mulch depth at the base of the tree.

Shallow rooted, acid loving plants such as Rhododendrons, azaleas, blueberries, mountain laurel, camellias, Japanese hollies, Andromeda, etc. should be mulched with a thin layer of pine bark. The mulch should not exceed one inch. Boxwoods are not acid loving, but do have a shallow root system and also require a thin layer of hardwood mulch. Hardwood mulch eventually breaks down into an organic layer that has a higher pH. Take regular [soil tests](#) to make sure that the pH is within the optimal growing range.

Occasionally, the leaves of shrubs, annuals, or perennials may become bleached, scorched, or chlorotic after a fresh application of wood mulch products. This problem is caused by “wood alcohol syndrome,” also called “sour mulch.” Problems with wood mulch can occur when it is stored in very large piles (taller than 6-8 feet in height) for long periods of time. This is usually a problem with bulk mulch but can also occur in bagged mulch that remains wet for long periods of time. The wood mulch undergoes anaerobic fermentation, a process where organisms convert organic matter into compounds such as sulfides, acetic acid, ethanol, and methanol. These volatile compounds accumulate and are released as gases that are toxic to plants. The leaves on lower branches of woody plants may drop, but most woody plants recover from the damage.



Hosta showing bleached lower leaves from “sour mulch.”



Bird's nest fungi growing in mulch.

Most wood mulches are suitable for the growth of Bird's Nest and Artillery fungi. These decay organisms propagate themselves by shooting spore bodies a long distance when the fruiting structure of the fungus ruptures. Be sure to use only a think layer of mulch near homes, decks, and parking areas to avoid damage from the spore bodies, which are difficult to remove.

Problems with wood mulch can be easily avoided. When bulk mulch is delivered, smell it before placing it around plants. Mulch that has been decaying anaerobically will have a very strong alcohol-like odor or may smell of vinegar or rotten eggs as opposed to the pleasant mild smell of properly stored mulch. If you have any doubts about your mulch, aerate the pile and allow it to dry out before using it. If sour mulch has already been applied, water it thoroughly to leach any compounds that have not yet evaporated.

Types of Mulch



Shredded Cypress



Large pine nuggets



Close-up of mini pine bark nuggets



Brown dyed shredded hardwood mulch.



Black dyed shredded hardwood mulch.



Red dyed shredded hardwood mulch.

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