



CMG GardenNotes #658

## Mulching Trees

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### Mulch Importance and Benefits

Mulch is important to the long-term health of trees.

- It helps protect them from string trimmer and lawn mower damage.
- It helps retain soil moisture and reduces evaporation from the soil surface by 25-50%.
- Mulch helps moderate soil temperature extremes and controls erosion.
- It enables tree roots to outcompete grass roots for available nutrients and water.
- Fine root hairs of trees develop 400% more under mulch than under grass. This is important because root hairs absorb most of the water and nutrients for the tree.
- Mulch suppresses weed growth and gives landscapes a finished, polished look.

### Mulch Disadvantages

While mulch has many benefits, there are some disadvantages.

- Used in moist areas, organic mulch can create conditions ideal for trunk or root rot, especially when placed too close to the trunk. Rot in this part of the tree leads to instability and makes a tree more susceptible to wind throw.
- Organic mulches may be attractive to voles that use it as shelter and then chew on tree bark for food.
- Lighter-weight mulch materials can blow away in very windy areas,
- Herbicides directed at weeds emerging through mulch may accidentally touch roots, green bark and sucker sprouts, leading to tree injury.
- When mulch is applied too deep around a tree stem- girdling root problems often follow and may kill a tree several years after planting.

## Mulch Options

There are many options when it comes to choosing mulch, but not all mulch is best for tree health. Plastic mulch/sheets suppress weed growth, but might overheat the soil and damage roots. In addition, plastic mulch doesn't allow for proper oxygen flow to the tree root systems so roots tend to grow directly under the plastic, leading to potential problems. Large rocks do a poor job of suppressing weed growth and can overheat the soil and tree roots. Rock mulch may also have increased weed growth, as soil settles between rocks, providing ideal conditions for weed germination. Rubber mulch can lead to drainage problems and leach toxic metals into the soil. When choosing a tree mulch that is attractive, beneficial, and convenient it is hard to beat bark chunks, shredded bark, wood chips, and pine needles.

## Mulch Application

Properly applying mulch is just as important as selecting it. Keep the mulch at least 6 inches away from the bark of the tree. This helps keep the lower trunk dry and reduce the likelihood of bark decay and rot.

Never apply mulch directly over the newly planted root ball since this encourages roots to grow up into the mulch and around the trunk or each other. This growth can girdle the tree within several years. Instead, mulch the backfill area and beyond if possible, to a 3 to 4 inch depth. Excessively mulched trees, sometimes called "mulch volcanoes", reduce the amount of available oxygen to tree roots, causing oxygen starvation and tree decline or death.



Figure 1. Keep mulch away from the trunk and off the root ball.

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