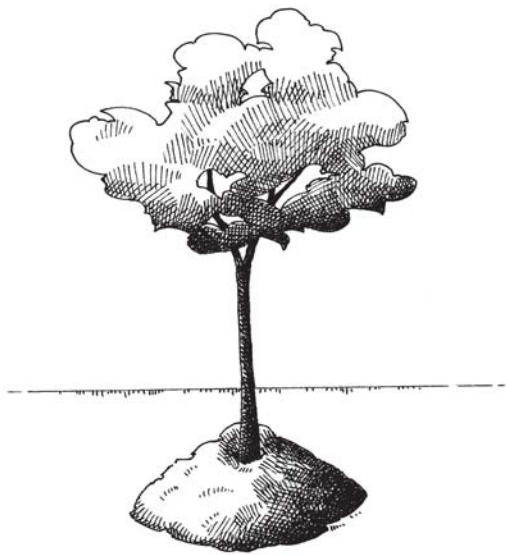


Effects of Poor Mulching

Mulching provides multiple benefits toward improving tree health and longevity. However, these benefits can only be obtained by the tree if the mulch is applied properly and maintained consistently over the life of the tree. When mulch is applied inappropriately by over mulching or piling up against the trunk, it can:

- Cause inner bark tissue to die;
- Lead to insect and disease problems;
- Promote excessive soil moisture and promote root rots;
- Create habitat for rodents that chew the bark and girdle the stem;
- Lead to anaerobic conditions that produce alcohols and organic acids toxic to young plants;
- Cause imbalances in soil pH; and
- Become a matted barrier that prevents the penetration of water and air.



A mulch “volcano” sets the stage for insect and disease problems, root rot and excessive soil moisture.

Images and Adapted text provided by Missouri Department of Conservation.

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This document is available upon request in large print, braille and audio cassette.

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www.vtcommunityforestry.org

Mulching Trees



A Basic Guide To:

- Benefits of Mulch
- Types of Mulch
- How to Apply
- Effects of Poor Mulching



VT Urban and Community Forestry Program

A joint initiative between the Department of Forests, Parks and Recreation and the University of Vermont Extension

Mulching Trees

Trees in the forest annually benefit from a natural protective layer of fallen leaves, needles, and other tree parts that cover and protect both soil and roots. This same protection can be given to the trees that we plant in our landscapes by mulching.

Benefits of Mulch

- Helps to conserve soil moisture; evaporation and the need for watering is reduced;
- Insulates the soil surface, keeping it warmer in winter and cooler in summer;
- Helps control weeds and grass;
- Protects the trunk and surface roots from mechanical injury from lawn mowers and string trimmers;
- Improves soil structure, aeration and drainage;
- Increases soil fertility as organic matter decomposes;
- Reduces soil erosion;
- Prevents soil compaction by reducing traffic;
- Makes lawn maintenance easier; and
- Presents a well cared for appearance.

Types of Mulch

There are two distinctly different types of mulch to choose from: organic and inorganic. While both will conserve moisture and reduce damage from mechanical injury, organic mulches, as they decompose, also provide the additional benefit of adding organic matter to your soil. This helps the soil to better retain water and nutrients, giving you healthier trees.

Organic mulches are made from plant material and include composted wood chips, shredded bark, pine needles, compost mixes and leaves. The material should be weed-free, non-matting, easy to apply, and readily available. Organic mulches decompose at different rates depending on the material and must periodically be replenished.

Inorganic mulches include decorative stone, lava rock, pulverized tires and geotextile fabrics. They are useful for soil protection in high traffic areas but are not recommended for mulching around trees, as inorganic mulches do not contribute to soil and tree health.

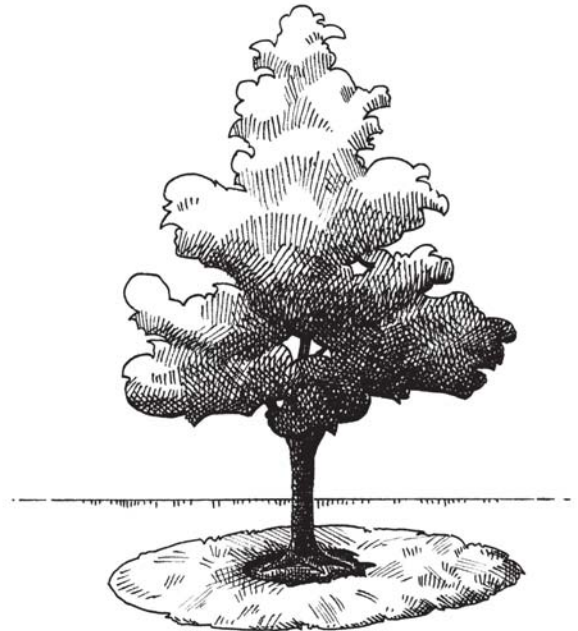
The ideal mulch does not compact readily or retard water and air movement into the soil. In addition, the ideal mulch is uniform in color, attractive, breaks down slowly and does not blow away. Cost and appearance also need to be considered when choosing a mulch.

How to Apply Mulch

- Check soil drainage in the area to be mulched. Determine if there are trees or plants that may be affected by the type of mulch. Most organic mulches work well in most landscape situations. However, some plants may benefit from specific mulches such as pine needles or bark that acidify the soil.
- Apply a 2 to 3 inch layer of mulch over well-drained soils. Use a thinner layer on poorly-drained soils. While the proper depth is important, the area covered is more important. Since the purpose of mulching is to benefit the roots, the wider the mulch ring, the greater the benefit. Mulch out to

the tree's *drip line* if possible. *Drip line* is a line on the ground defined by the outer edge of a tree's branches

- **Do not pile mulch against the tree trunk.** Pull mulch back several inches from the trunk so the base of the trunk and root crown are exposed. The mulch ring should resemble a "doughnut," not a "volcano."
- If mulch is already present, check the depth. Do not add more if a sufficient layer is already in place. Rake old mulch to break up matted layers and restore its appearance.



A properly mulched tree will have a 2 to 3 inch layer of mulch in a doughnut shaped ring. The ring should extend out to the tree's drip line if possible.