

MULCH 101

Mulching is one of the most important ways to maintain healthy landscape plants. A mulch is any material applied to the soil surface for protection or improvement of the area covered. Mulching is really nature's idea. Nature produces large quantities of mulch all the time with fallen leaves, needles, twigs, pieces of bark, spent flower blossoms, fallen fruit and other organic material.

Benefits of Mulching

When applied correctly, mulch has the following beneficial effects on plants and soil:

- Mulches prevent the loss of water from soil by evaporation.
- Mulches reduce the growth of weeds, when the mulch material itself is weed-free and applied deeply enough to prevent weed germination or to smother existing weeds.
- Mulches keep the soil cooler in the summer and warmer in the winter, thus maintaining a more even soil temperature.
- Mulches prevent soil splashing, which not only reduces erosion but keeps soil-borne diseases from splashing up onto plants.
- Organic mulches can improve the soil structure. As the mulch decays, the material becomes topsoil. Decaying mulch also adds nutrients to the soil and promotes the health of microscopic flora and fauna within it.
- Mulches prevent crusting of the soil surface, thus improving the absorption and movement of water into the soil.
- Mulches prevent the trunks of trees and shrubs from damage by lawn equipment.
- Mulches help prevent soil compaction.
- Mulches can add to the beauty of the landscape by providing a cover of uniform color and interesting texture to the surface.
- Mulched plants have more roots than plants that are not mulched, because mulched plants will produce additional roots in the mulch that surrounds them.

Types of Mulches

There are basically two types of mulches: organic and inorganic. Both types may have their place in the garden.

An organic mulch is a mulch made of natural substances such as bark, wood chips, leaves, pine needles, or grass clippings. Organic mulches attract insects, slugs, worms and the birds that eat them. They decompose over time, adding nutrients to the soil. They need to be replaced every few years.

Inorganic mulches, such as gravel, pebbles, plastic and landscape fabrics, do not decompose. Thus they are longer lasting but add nothing to the soil.

Mulch Materials

Organic Mulch Materials

Your yard debris can be recycled as mulch with the advantage of retaining the nutrients found in these organic materials. Additionally you will save money and reduce your environmental impact by not transporting and disposing of it.

Grass Clippings

The best use for grass clippings is to leave them on the lawn. Grass clippings will decompose rapidly, adding nutrients back into the soil. A two-inch layer of grass clippings provides weed control if they are not full of weed seeds. It is best to build up the layer gradually using dry grass, not fresh clippings, to prevent the formation of a solid mat. Be careful not to use clippings from lawns that have been treated with herbicides.

Hay and Straw

Never use hay for mulch since it contains too many weed seeds. Straw decomposes rapidly, so you will have to replenish it to keep the weeds down. Straw is not very ornamental and is best for a vegetable garden or over newly sown lawns. Straw will improve the soil as it decays.

Leaves

A 2- to 3- inch layer of leaves provides good weed control. It is best to shred the leaves coarsely, using a shredder or your lawn mower. Whole leaves have a tendency to blow away, while finely shredded leaves do not allow water to penetrate. Oak and beech leaves help to acidify the soil for acid-loving plants. Leaves are usually easy to get, attractive as a mulch, and they will improve the soil once they decompose. After the leaves decompose, dig them into the soil and add a new layer of mulch on top.

Fir or Hemlock Bark

A 2- to 3- inch layer of softwood bark is good for weed control. Softwood bark makes an attractive, medium to dark-colored mulch. It can be purchased in various particle sizes, from shredded to large-sized chunks, called nuggets. Large bark nuggets float in water and may not stay in place during a heavy rain, especially on slopes.

Wood Chips

This material contains bark and pieces of wood of various sizes and makes an attractive mulch. A 2- to 3- inch layer of wood chips provides good weed control. Small wood chips decompose very rapidly drawing nitrogen from the soil, which needs to be replaced by nitrogen fertilizer.

Hazelnut or Cocoa Shells

Hazelnut or cocoa shells make a long-lasting, attractive, dark brown mulch that is effective in retaining moisture in the soil. The jagged edges will also discourage cats from digging (as well as doing other things) in your plantings.

Ground Cover

Many perennial ground cover plants, such as thyme, vinca, pachysandra, mondo grass and liriop, will cover the soil and act as a mulch.

Inorganic Mulch Materials:

Gravel, Pebbles, or Crushed Stone

These materials are permanent and are best used for permanent plantings such as foundation plants. A 1-inch layer of small rocks will provide good weed control. Do not use them around acid-loving plants since the rocks may add alkaline elements and minerals to the soil. These materials reflect solar radiation and can create a very hot landscape environment during the summer months.

Black Plastic

Black polyethylene film is very effective in preventing weed growth. It also holds water in the soil. Therefore, plastic is not recommended for poorly-drained areas as it may cause the soil to remain too wet, which could result in root disease problems. You may have to cut holes in the plastic if water does not go through it. There is black plastic available that has small holes in it to help with drainage. If exposed to sunlight, black plastic breaks down quickly, losing its effectiveness as a mulch. However, if you bury black plastic in the soil, it will last for many years. Covering the black plastic with a layer of wood chips or pine needles will reduce heat absorption and mask its artificial appearance.

Clear Plastic

Clear plastic will not suppress weed growth because light penetrates the film and raises the soil temperature, which may result in an increased growth of weeds in early spring.

Landscape Cloth or Woven Ground Cloth

Materials woven of fabric, plastic or paper are available in various lengths and widths. The materials are treated to resist decomposition. Unlike plastic films, woven materials allow water and air to move through them. They are very effective in controlling most weeds, although some grasses may grow up through the holes in the fabric. Landscape cloth needs to be fastened down so it will not be pushed up by perennial weeds. Better moisture, temperature and weed control will be obtained by adding several inches of another mulching material on top of the landscape cloth.

Ground Rubber Tires

Mulches made of ground rubber tires do not decompose and therefore, theoretically never need to be replaced. However, the use of ground rubber tires is relatively new and its effectiveness as a mulch is still being evaluated. Be aware that rubber contains many hazardous chemicals which may leach into your soil over time.

Tumbled Glass

Tumbled glass is extremely durable, comes in a wide range of colors, but is also expensive and not widely available. Because of the cost it is best used in small areas such as containers.



Where to Use Mulch

Mulching is very important for establishing new plantings, because it helps to conserve moisture in the root ball of the new plant until the roots have grown out into the surrounding soil. The growth rate and health of trees and shrubs increases when there is no competition for water and nutrients from weeds. Mulch also helps to prevent tree trunk injury by mowers and trimmers. Newly planted trees require a circle of mulch 3 to 4 feet in diameter. Maintain this for five years. Mulch entire beds of shrubs, trees, annuals, herbaceous perennials and ground covers.

Mulch can also be used to cover trails, driveways, and play and natural areas.

Light-weight mulch such as dried grass clippings and pine straw can be used temporarily to cover low-growing tender plants to protect them from frost injury.

When and How Often to Mulch

The best time to mulch new plantings is right after you plant them. Around established plants mulch is best applied in early spring. This is when plants are beginning to grow and before weed seeds start to germinate.

How often mulch needs to be replenished depends on the mulching material. Grass clippings and leaves decompose very quickly and need to be replenished frequently. Inorganic mulches such as gravel and pebbles rarely need replenishing. As the plants grow and fill in the bed areas, less and less mulch is needed.

How to Apply Mulch

Before applying any type of mulch to an area, it is best to weed the area thoroughly. Next spread a layer of mulching materials over the entire plant bed. Keep mulch 2 to 3 inches away from the stems of woody plants. This will prevent decay caused by wet mulch and rodent damage during the winter. Keep mulch 6 to 12 inches away from the walls of buildings.

Subterranean termites nest in the soil and feed on materials that contain cellulose. Termite treatments are applied to the soil around buildings, so keeping mulch away from walls will prevent termites from using it as a bridge to cross treated soil.

Newly planted trees require a circle of mulch 3 to 4 feet in diameter. Maintain this for at least three years. Do not pile mulch against the trunk. For established trees in lawns create a circle of mulch about 2 feet in diameter for each inch of trunk diameter. Increase the size of the mulched area as the tree grows. Try to apply the mulch at least 6 to 12 inches beyond the drip-line of the tree. Because the root system can extend two to three times the crown spread of the tree, mulch as large an area as possible.

How Deep to Mulch

The amount of mulch to apply depends on the texture and density of the mulch material. Many wood and bark mulches are composed of fine particles and should not be more than 2 to 3 inches deep. Excessive amounts of these fine-textured mulches can suffocate plant roots, resulting in yellowing of the leaves and poor growth.

Coarse-textured mulches such as fir bark nuggets allow good air movement through them and can be as deep as 4 inches.

Mulches composed of grass clippings or shredded leaves should never be deeper than 2 inches, because these materials tend to mat together, restricting the water and air supply to plant roots.

How to Calculate the Amount of Mulch Needed

To determine how many cubic feet of mulch is needed, calculate the surface area and the desired depth of coverage. There are 27 cubic feet in a cubic yard. One cubic yard will cover a 324-square-foot area with an inch of mulch. Figure out the square footage of your bed, that is the width times the length for square or rectangular shaped beds. The square footage of a circular bed is the distance from the middle of the circle to the outside, multiplied by itself and then multiplied by 3.14 (which is pi).

Multiply your square footage by the depth desired (in inches) and divide by 324 square feet. This will tell you how many cubic yards you will need.

Feel free to ask any employee for assistance with mulch questions, selection, and calculations. **We are always happy to help!**

