MULCH for the HOME GROUNDS

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Mulch is any material applied to the surface of garden soil:

- To reduce water loss from the soil by evaporation.
- To aid in preventing rapid changes in soil temperatures.
- To allow for more root growth in the fall by keeping soil warm.
- To inhibit weed growth and germination of weed seed.
- To look nice and add continuity to garden beds.
- To add nutrients and humus to the soil as they decompose. (Organic mulch)
- To prevent mud and disease organisms in the soil from splashing on fruit and vegetables.
- To prevent premature growth of herbaceous perennials and bulbs during a mid-winter thaw. (Winter mulch)
- To reduce heaving of plants from the ground during alternate freezing and thawing periods in winter. (Winter mulch)

APPLICATION

Apply mulch at a depth of 1" to 12" (most at 2"-3") depending on the material and season used. Those commonly used around trees and shrubs, such as shredded hardwood and bark chips, are applied to within 2 to 6 inches of the trunk or stems. (Piling mulch on the trunk can lead to disease, insect infestation, adventitious root development, and rodent damage.) Weed suppression by some mulch, such as stones and marble chips, can be improved by placing a porous polyethylene weed barrier under the stones. Winter mulch may be applied at a greater depth after the ground freezes, and be removed in spring.

MATERIALS: ORGANIC

Organic mulch decomposes to increase organic matter in the soil. Some materials and range of depths are:

Bark chips and nuggets	1-3"	peanut shells	2-3"
Buckwheat hulls	1-3"	peat moss	don't use
Cocoa hulls	1-3"	pine needles	2-4"
Compost	1-3"	salt hay, hay	6-8'
Corncobs (ground)	2-3"	sawdust	1-2"
Evergreen branches	8-12"	shredded hardwood	1-3"
Grass clippings (no herbicides!)	1"*	spent hops	2-3"
Ground tobacco stems	2-4"	straw	6-8"
Leaves	3-6"	sugar cane, shredded	4"
Licorice root	1-3"	wood chips	1-3"
Manures (rotted)	1-3"	wood or cedar shavings	1-3"
Newspaper	16-20 sheets		

*Apply one inch at a time. Allow to yellow completely before adding more.

Note: Any material used over poly weed barrier should be about 1" deep or just enough to cover.

MATERIALS: INORGANIC

Inorganic materials are more stable than organics. They do not break down quickly in the environment and do not have to be replaced as often. They do not improve the soil. (Marble chips, a coarse limestone, can raise the pH of the soil, which may not be desired around acid-loving plants, like azaleas.) Inorganics may be difficult or awkward to remove and may increase temperatures around plants by solar reflection.

Aluminum foil	1 sheet deep	woven poly weed barrier	1 layer
Black polyethylene film	1 layer	stones, gravel, marble chips	1/2-3"
Carpet remnants	1 layer	tarpaper	1 layer

MULCH SELECTION CONSIDERATIONS

The advantages of mulching outweigh the disadvantages of some of them. Consider the following when choosing mulch:

1. **Expense**: Prices range from free (newspaper, grass clippings) to expensive (licorice root, cocoa hulls). Consider size of area to be covered.

2. **Availability**: Cocoa hulls may be obtained from a chocolate processing factory; spent hops from a brewery; sawdust and woodchips from a lumber mill. Check local industries. Grass clippings (no weed killers applied within the last month or so!) are abundant in spring and fall. Licorice root, bark nuggets, hay, stones, and shredded hardwood are sold at garden centers. Wood chips and/or compost may be obtained from a yard waste recycling facility or tree maintenance company. Evergreen branches are widely available after Jan. 1 when cut live Christmas trees are put out for pick-up.

3. **Pest problems**: Organic mulch may harbor earwigs and slugs that hide in them at night. Wood mulch may attract termites or carpenter ants. Slime molds grow on some organics. Sphaerobolus (artillery) fungus may be in some hardwood mulch and "shoot" glebules, small blobs of resinous material, at adjacent plants and structures. Rodents may tunnel under mulch in winter to nibble stems and bark.

4. **Compaction or "caking:"** Peat moss may cake and become very difficult to wet again if it dries. Maple leaves pack together when wet, excluding air and water. (Use maple leaves only when shredded or composted.)

5. **Weed seeds**: Straw, hay, and compost may contain weed seeds that will grow in the garden. Salt hay contains no seed that will cause problems.

6. **Ease of application or removal**: Light mulch, such as peat moss, sawdust, newspaper, cocoa hulls, and straw, may be blown away by winds during and after application. Anchor layers of newspaper with soil along the edges to prevent blowing. Stone mulch is heavy to transport, awkward to apply and remove, and may compact soil under sensitive plants.

7. **Nitrogen depletion**: As they decompose, sawdust, shredded hardwood, wood chips and other high carbon materials take nitrogen (a nutrient necessary for growth and green leaves, but also for decomposition) from the soil at the expense of growing plants. A small amount of slow release nitrogen fertilizer sprinkled under the mulch prevents this problem.

8. **Seasons of effectiveness**: Evergreen branches are very effective as winter mulch. Most organic mulch, because they decompose, must be supplemented or replaced after a year or two. Inorganic mulches tends to be more stable, but don't improve the soil.

9. **Change in soil reaction**: Do not use marble chips around acid-loving plants. Marble chips are limestone and make the soil more alkaline than these plants can tolerate.

10. **Appearance**: This consideration is strictly personal preference.

NOTE: DO NOT PILE SHREDDED HARDWOOD, STONES, OR OTHER MULCHES ON THE ROOT FLARE AND TRUNK OF A TREE. These mulch "volcanoes" are inappropriate and can actually damage a tree by holding too much moisture that stimulating rot diseases and adventitious root development, by catching rain that falls in light showers before it can penetrate the soil, by providing cover for root and bark damaging voles, and by eventually excluding oxygen from the small roots that form near the base of the tree. Maximum mulch depth should never exceed 3" and should start about 2-6" away from the root flare.