



MULCHING YOUR GARDEN

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We've had an abundance of rain in the foothills this Winter and Spring. I alternate between wishing for "just one sunny day" to get out and work in the garden and feeling very glad that the earth is replenishing her water resources.

But no matter how much rain we receive this year, our water supply is finite and unevenly distributed, so preventing water loss is essential in an area like ours with drought cycles.

Enacted in 1990, California passed AB 325, known as the "Water Conservation in Landscaping Act," encouraging garden design principles that reduce the amount of water used on landscapes. The law is based on seven principles:

- Proper garden planning and design
- Limited use of turf areas
- Use of efficient irrigation systems
- Soil improvements
- **MULCHING**
- Use of plants that demand less water
- Appropriate maintenance (seeding and fertilizing).

The last time I looked, I didn't see any Mulch Police checking up on whether I was complying with the Act. So I decided it was up to me, as a backyard gardener, to learn about the benefits of mulching. The word "mulch" has evolved over time. Early Middle English had an adjective—Mulsh—meaning soft or yielding. Centuries later, the "s" changed to a "c" and the adjective became a noun, Mulch, meaning "rotten hay." Something was lost in the translation!

Today mulch is defined as any material applied to the surface of the soil. It differs from an "amendment" which is defined as anything mixed into the soil to improve the texture. It also differs from "compost" which is an accelerated form of the natural decomposition process.

Research reveals a long list of benefits to mulching. The first helps fulfill the purpose of the "Water Conservation in Landscaping Act" mentioned above which is to increase soil moisture retention.

- **Applying mulch reduces evaporation by up to fifty percent (50%), thereby reducing the need for frequent watering.**
- **It also protects the soil from erosion.**
- **Another benefit is that mulch suppresses weeds.** (And what gardener isn't interested in help in that area?)

Mulching can reduce weed growth by up to two thirds by blocking sunlight from germinating weed seeds. The finer the mulch material, the more light is blocked, and the better the weed suppression will be. This has an added valuable benefit of cutting down on use of herbicides.

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Mulching with organic materials can also act as a soil conditioner.

The coarser the material, the deeper the mulch needs to be. Organic mulches include any biodegradable material that will rot, including straw, rice hulls, grass clippings, leaves, newspaper, and bark chips. Pine needles can also be used but since they tend to increase the acidity of the soil over time, they work best around acid-loving plants such as rhododendrons and blueberries.

According to the *California Master Gardener Handbook*, the mulch depth should be 1 to 3 inches for finer materials such as sawdust or grass clippings, and 3 to 6 inches for coarser materials such as bark, straw, or shredded plant matter. Never apply mulch right next to the trunks of trees or the stems of plants because crown rot and other problems can result from excessive moisture that may accumulate in the area. Keep the mulch pulled away from the trunks as pictured below.

Other benefits of mulching include:

- **Encouraging presence of earth worms which aerate the soil and produce “castings” (worm poop = a high quality fertilizer!)**
- **Stimulating the microbial activity in the soil which helps in the decomposition process**
- **Producing healthier and less stressed plants**
- **Reducing crusting and soil compaction (the dry, cracked clay soil you see in dry conditions)**
- **Providing a “finished” look to the garden.**

Mulch also has an effect on soil temperature. Black plastic can raise the soil temperature up to 6 degrees, while organic mulch can lower the soil temperature by around 10 degrees. By providing an insulating barrier between the soil and the air, mulched soil in the summer will be cooler than adjacent un-mulched soil. In the winter, mulched soil may not freeze as deeply. But also, mulched soils tend to warm up more slowly in the spring and cool down more slowly in the fall. It may be appropriate to remove mulch in the early spring to help your soil warm up.

As well as organic materials, mulch can also be inorganic materials which are defined as "inert or artificial material that will never rot."

Among others, these include black plastic, crushed stone, gravel chips, and geotextiles such as landscape fabrics made from polypropylene, polyester or a mixture of peat moss and cellulose.

When should you apply mulch?

It depends on what you want to achieve. Mulch in the vegetable garden is best applied after the soil has warmed up in the spring. Cooler soil tends to slow down germination of seeds. And I add a layer of mulch to the paths around my raised beds for weed control. This concept also works when applying mulch to existing perennial beds. Again, wait for the soil to warm up completely.

I always lay down a sheet or two of newspaper before I apply any organic mulch. This helps greatly with both water retention and weed suppression. Be sure you use only text pages (black ink) since color dyes may be harmful to soil microflora and fauna.

I tend not to use landscape fabrics or black plastic under a layer of organic materials. The barrier between the soil and mulch tends to prevent any improvement in the soil conditions and makes planting additional plants in the area more difficult.

Answering these questions should help guide your decisions about how, when and where to apply mulch:

- **What do I hope to achieve by mulching—weed control, moisture retention, soil improvement, beautification?**
- **How large is the area to be mulched and how much mulch will I need to cover the area?**
- **What is the cost of the material I am considering?**

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- **How available is this mulch?**
- **How long do I want the mulch to last (finer materials will rot faster while coarser will last longer)?**

The use of mulch is one of the simplest and most beneficial practices you can use in the garden. I encourage you to begin mulching today. I see the many benefits every time I take a stroll through my garden.

Happy Mulching!

References

Natural Resources Conservation Service; "Mulching," <http://www.nrcs.usda.gov>
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