

EASY GARDENING: MULCHING

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Mulching is a long-established horticultural practice that involves spreading a layer of material on the ground around plants to protect their roots from heat, cold, or drought or to keep the fruit clean.

Mulches can be classified as inorganic or organic:

- ▶ **Inorganic** mulches include plastic, rocks, rock chips, and other non-plant materials. Plastic is the only inorganic mulch used in vegetable gardens.
- ▶ **Organic** mulches include straw, compost, newspaper, sawdust, and similar materials.

Shallow cultivation of the soil's surface after a rain slows the rate of water loss from the soil.

VALUE OF MULCHES

A 4-inch layer of mulch on the soil surface, especially in sloping gardens, helps keep water from washing away soil particles. Mulches also prevent raindrops from splashing on the soil surface and reduce the spread of diseases (Fig. 1).

The use of mulch is vital in Texas. A mulch layer on the soil surface allows the soil to soak up more water. It also reduces the rate of water loss from the soil. A 4-inch layer of mulch on the soil surface dries much faster than the soil below it.



Figure 1. Mulch resists splashing raindrops and erosion.

Thus, it prevents water from moving into the air (Fig. 2).

Mulches modify the soil temperature in home gardens. Applied in late fall, winter mulch insulates the roots, crowns, and stems of winter crops from extremely low temperatures.

In the summer, proper mulching helps keep the soil cooler.

Conversely, soil covered by black or clear plastic or dark organic mulch in early spring warms faster than bare soil (Fig. 3). This allows earlier planting of warm-season crops. To keep the soil cooler in summer, use light-colored paper such as newspaper. Organic mulches such as compost and sawdust also keep soil under the mulch layer cooler in summer. Dark soil warms much faster than does light-colored soil (Fig. 4).

Organic mulches enrich the soil as they decay and improve the environment for plant growth. Soils high in organic matter are easier to till and better suited to vegetable gardening. Adding organic material makes the soil more crumbly, especially clay soils that pack and crust.

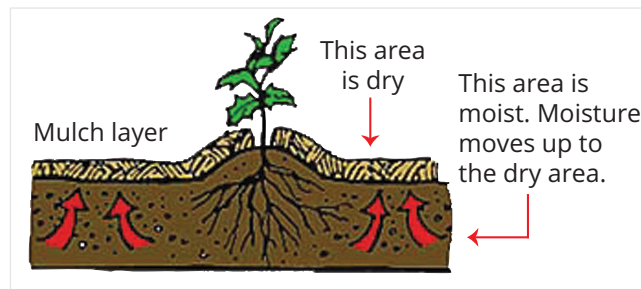


Figure 2. A layer of mulch can help prevent water from evaporating from the soil.

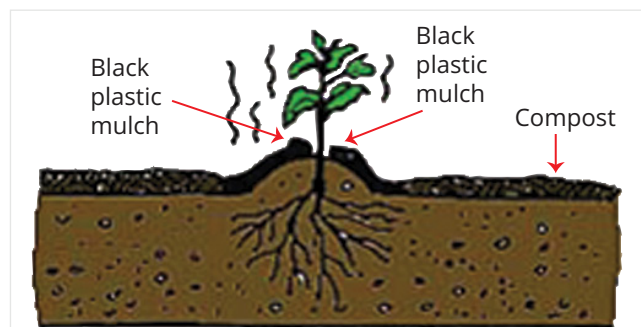


Figure 3. Dark-colored plastic used as mulch warms the soil.

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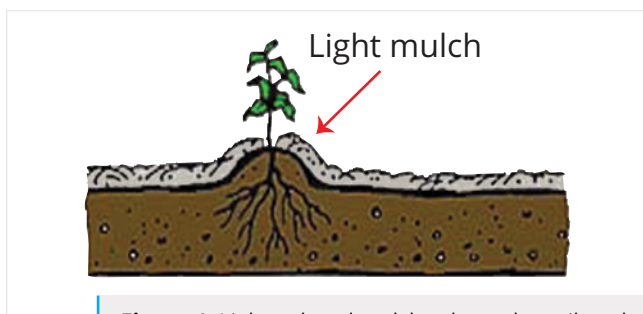


Figure 4. Light-colored mulches keep the soil cooler.

Mulches also help plants by gradually making the soil more fertile. At the end of the season, organic mulch such as straw or newspaper can be turned under the soil. This helps build the soil organic matter content. Turn under the mulch as soon as the gardening season is over to enable it to break down before the garden is replanted.

Most types of mulch also help control weeds. Although mulch does not prevent weed seeds from sprouting, it does block the emergence of weed seedlings if the mulch layer is thick enough to exclude light. A 4-inch layer of mulch on the soil surface keeps most annual weed seedlings from coming through (Fig. 5).

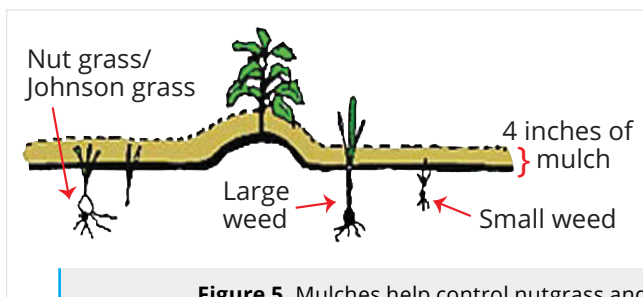


Figure 5. Mulches help control nutgrass and johnsongrass, prevent small weeds from emerging, and make it easier to pull large weeds that do get through.

In addition, the weeds that do break through are removed more easily from mulched soil. Hard-to-control weeds such as nutsedge and johnsongrass may come through the mulch layer but can be pulled more easily; or, they can be covered by fluffing the mulch with a fork.

A well-mulched garden can yield 50 percent more vegetables than can an unmulched garden the same size. The rows can be spaced more closely because there is little or no need to cultivate the soil.

Other advantages are that the plant food is more available in cooler soil, and the extra soil moisture increases plant growth and yields.

You will also harvest more fruit because of less fruit rot. In a mulched garden, fruit does not touch the soil, and

soil is not splashed up on the fruit (Fig. 6). This is true for tomato fruits that rot easily when resting on the soil surface.

Potatoes can be mulched heavily as the vines grow. This causes tubers to form in and under the mulch layer. These potatoes are less susceptible to soil rot, easier to harvest, and less likely to be bruised during harvest.

Garden mulching reduces maintenance. A good mulch layer eliminates the need for weeding, and mulched vegetables are cleaner at harvest. Fruits of tomato, melon, and squash plants never touch the soil.

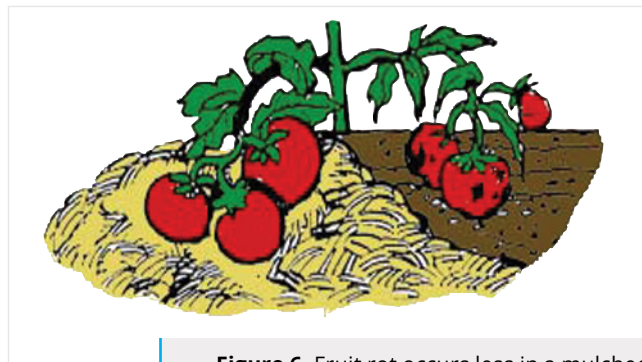


Figure 6. Fruit rot occurs less in a mulched garden because the fruit do not touch the soil, and soil is not splashed up on the fruit.

MULCHING MATERIALS

Many materials can be used to mulch a garden, including compost, straw, gin trash, and sawdust.

- ▶ **Compost** is generally the best mulching material for a home garden. It is inexpensive and usually free of weed seeds. Prepare compost from materials already present in your yard. You do not need to buy expensive materials for mulching.
- ▶ **Straw** is short lived and coarse textured. More straw is needed for the same effect as from compost or lawn clippings. If you use a fine-textured material, you will generally need less of it to provide a 4-inch layer of mulch after settling.
- ▶ **Cotton gin trash** is commonly available in Texas. However, it is risky to use unless you know its source and prior treatment. Make sure that the farmer did not use arsenicals on the cotton. Arsenicals are long-lived chemicals that can remain in gin trash for several years. Also, gin trash may contain weed seeds and diseases. To make it safer and easier to use, compost the gin trash before applying it to your garden. The heat generated by composting will kill most weed seeds and most disease organisms that infect plants.

- ▶ **Sawdust** is often available, especially in East Texas. Managed well, it can be good mulch. However, it can also cause a temporary but sharp decrease in soil nitrogen. To counter this, add a small amount of garden fertilizer to the soil after applying sawdust directly to a garden. Even better, add nitrogen to the sawdust, and then compost it before spreading it on your garden.

Plastic is effective as a mulch if used properly. Use black plastic in the spring and early summer to warm the soil. Black plastic keeps light from the soil and prevents weeds from growing. Clear plastic warms the soil, but weeds can grow beneath the plastic. A disadvantage of plastic is that it cannot be turned into the soil at season's end (Fig. 7).

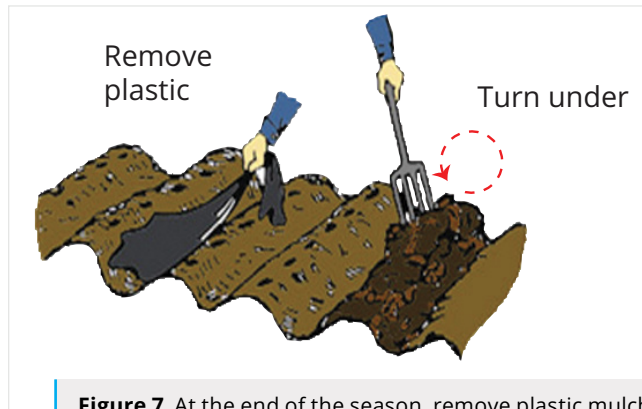


Figure 7. At the end of the season, remove plastic mulch and turn under straw and other organic mulches.

SELECTION OF MULCHING MATERIAL

When choosing mulch materials, consider these factors:

- ▶ **Cost of the material:** Do not buy mulching material when suitable materials are available at little or no cost.
- ▶ **The crop you plan to mulch:** Never mulch with material from the crop that is to be protected. For example, do not use potato vines from the spring crop to mulch fall potatoes. This increases the possibility of transmitting diseases to the current crop.
- ▶ **The season when the mulch is to be used:** Select light-colored mulch during the summer and early fall to reflect heat. Use dark-colored mulch in early spring to help warm the soil to permit earlier planting and hasten early growth.

USING MULCHES

Spread mulch on freshly cultivated, weed-free soil before the plants are large enough to interfere.

Apply organic mulch thick enough to leave a 4-inch layer after settling (Fig. 8). If the material is fine textured, 4 inches should be adequate. Coarser materials, such as straw, will settle and may require 8 inches or more initially. If you use newspaper, place eight layers on each side of the row.

If you use organic materials, add more mulch during the season. During the growing season, the mulch settles and gradually rots at the point where it meets the moist soil surface. Adding more layers assures continuous weed control, provides a clean resting place for the fruits of your labor, and creates a pleasing appearance all season long.

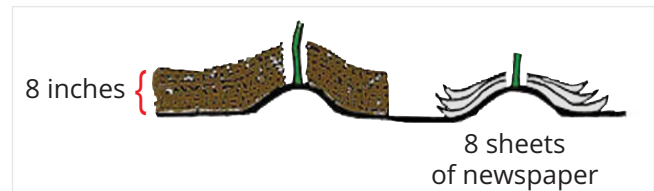


Figure 8. To get a 4-inch layer of mulch after settling, use 8 inches of coarse materials. Eight sheets of newspaper can also be a good mulch.

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