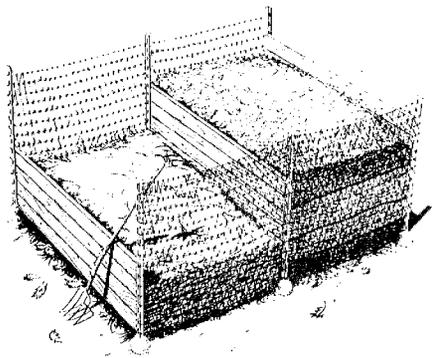


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Garden Mulches and Compost

Extension Circular 890
June 1976

Using a mulch in your flower or vegetable garden is a sound garden practice. A good mulch can reduce soil packing and washing, suppress weeds, keep the soil moist, regulate soil temperature, and add organic matter to the soil.

Mulches prevent loss of moisture from the soil by evaporation. Moisture moves by capillary action to the surface and evaporates if the soil is not covered by a mulch. Sun and wind hasten this loss of moisture.

You can reduce evaporation and control weeds by stirring the soil an inch or so deep, but plant roots cannot develop in this soil layer. A layer of mulch on the surface gives the same benefits and allows normal plant-root development.

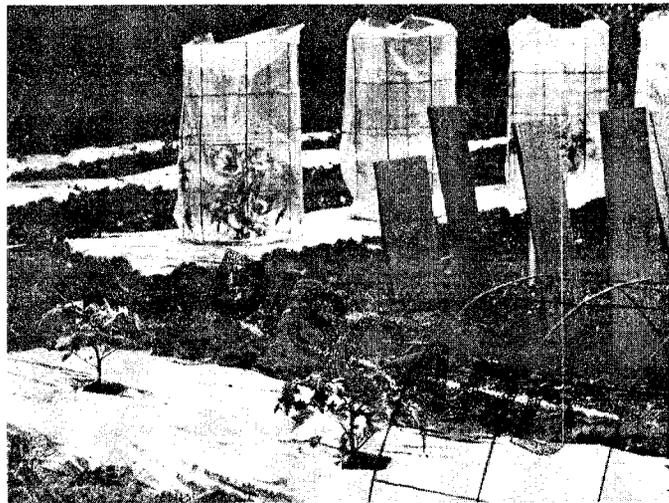


Raindrops splashing on bare soil detach soil particles which are carried away by surface water.

Energy from falling raindrops is dissipated on a mulched soil. The result is less soil erosion and less soil compaction.

Organic mulches

Sawdust, straw, and compost make excellent mulches and are easy to apply. Simply spread a 2- to 4-inch layer of one of these organic materials on the soil surface around your plants, making certain you do not cover the plants. Keeping the layer deep enough to do the job is important too. This means that you will need to add more mulching material over the old layers to get all the benefits of mulching.



Plastic is a popular mulch that conserves moisture and warms the soil.

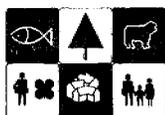
Mulching with grass clippings is a good way to dispose of the clippings but don't use more at one time than will dry readily. If applied too deep, they will pack and/or get slimy and prevent water from entering the soil.

Sawdust makes a better mulch if it is well rotted, or if you add one cup of ammonium sulfate or calcium nitrate to each cubic foot of fresh sawdust before applying the mulch. (If mulching around camellias or other plants that like an acid soil, use ammonium sulfate). Weed-free straw is excellent, but loose straw can be a fire hazard and, to some, it may be unsightly.

Mulches suppress weeds, thus saving a lot of work. An occasional weed may poke through the mulch, but it is easily pulled out.

Mulches can be used to regulate soil temperature. Plastic mulches will warm the soil; organic mulches will insulate against too much heat. Many plants, including those in vegetable and flower gardens, need a cool surface soil. Others, such as tomatoes and vines crops may benefit from warmer soils.

Organic mulches condition the soil and furnish food for earthworms, which are valuable in aerating the soil. The organic matter helps to keep the soil crumbly and easy to work. At the end of the growing season, the



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mulch can be worked into the soil to supply organic matter the following year.

If you use a mulch heavily around perennials in the winter as protection from freezing, remove it in the spring to expose plants to light and to let the soil warm.

Many organic materials, such as straw and autumn leaves, are low in nitrogen. Usually, you will find it beneficial to add nitrogen fertilizer to the material before applying it as a mulch. One cup of fertilizer high in nitrogen for each cubic foot of organic material, 10 pounds per cubic yard of mulch or compost, is about right. To avoid burning the plants, do not let the fertilizer touch them.

Composting

To make your own organic mulch, build a compost bin; preferably two. Two bins will allow you to be building one batch of compost in one, while using completed compost from the other. You can make the bins yourself by attaching ordinary wire fence or boards to solid posts or blocks. Each bin should be 4 to 6 feet high, 3 to 5 feet wide, and any convenient length. One side should be removable for convenience in building up the compost material and for removing it. In late fall, a temporary piece of wire fence may be used to increase the height about 2 feet. After the material settles, the extension fence can be removed.

Compost is not only an excellent mulch, it is a good fertilizer and soil conditioner when worked into the soil. When properly made, it will be free of viable weed seeds.

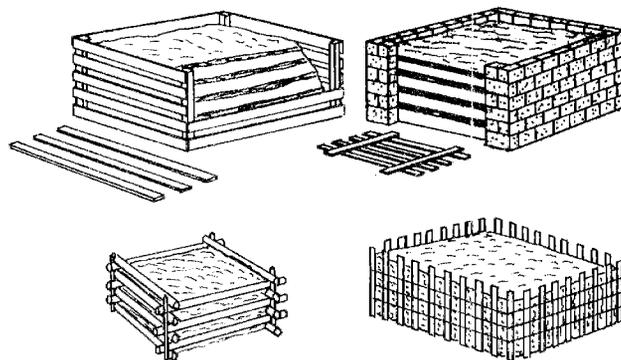
Leaves, grass clippings, stems and stalks from harvested vegetables, corn husks, pea hulls, and fine twigs are good materials for composting. Always compost leaves before using them as a mulch. Raw leaves are flat and may keep water from entering the soil. Avoid using any diseased plants.

Do not use more than one third walnut leaves in a mulch or compost. They are slow to decompose and contain a growth inhibiting substance.

The best way to make compost is to use two bins. Fill one with alternate layers of organic material 6 to 12 inches thick and garden soil about 1 inch thick. As you add each layer of organic material, add about a cup of high nitrogen fertilizer, such as ammonium sulfate, per cubic foot of compost material. This is about 10 pounds of fertilizer for a cubic yard, 3 feet by 3 feet by 3 feet. Lime is needed on some western Oregon soils and can be added to mulch or compost at about 2/3 cup per cubic foot. Since some ornamental plants are harmed by lime, however, you may choose to add it as you use the compost rather than to the compost itself.

Animal manure may be used as part of the organic matter in compost. If used, you do not need to add fertilizer. If the manure contains large amounts of woody bedding materials such as shavings or sawdust, you may add about half the usual amount of fertilizer.

Be sure to moisten the organic material thoroughly. Repeat this layering process until the bin is full or you run out of organic material. Pack the material tightly around the edges, but only lightly in the center so that



Compost bins can be made from readily available materials.

this area settles more than the edges and the water does not run off.

Observe the pile often during the summer so water can be added because heat will cause loss of moisture needed for proper composting. During the winter, a plastic cover will prevent loss of nutrients caused by rainfall leaching them away.

Composting is temperature dependent and will proceed faster in the summer. Shredding or otherwise making small particles also speeds up the process. Fall leaves may not compost much during the winter, but can be turned about May 1. Fork the material from one bin to another with the drier outside portion placed in the center. Turn again in about 3 to 5 weeks for the final composting. The material should be ready by mid-summer for mulching and side-dressing.

Plastic mulches

A 2 1/2' to 3' wide strip of plastic covering the soil will hasten ripening of warm season crops such as tomatoes, melons, and peppers by as much as 10 to 14 days. Insert the seeds of transplants through an X cut in the plastic. Clear plastic warms the soil more than black plastic, but can create a "greenhouse" for weeds. If temperatures of 90° or above are frequent when weeds are small, they will be "cooked." In Oregon's relatively cool summers, this condition doesn't always occur. Black plastic smothers the weeds, conserves moisture, and warms the soil.

Irrigation water that goes through the plant openings and around the edges usually is adequate and no special provision is needed to get moisture into the soil. Less water is needed with plastic mulch, since evaporation loss is less. If puddles form on the plastic, make a slit in the plastic at the lowest portion of the pool to allow drainage into the soil.

A large sheet of black plastic may be used to cover the garden during the winter if a portion is to be worked and planted very early. It will keep down the winter weeds and the soil will remain dry. Weights or a bark mulch may be needed to keep the plastic in place.