

Inorganic mulches

Inorganic mulches, often of stone or plastics, tend to stay in place, do not rob the soil of nitrogen, and do not harbor weed seeds. However, they have numerous disadvantages when used in the garden. Stone mulches can migrate down into the soil in time, making future digging difficult. Light-colored stones can reflect heat onto plants, scorching sensitive plants. Stones also tend to work free of beds and can be thrown by lawn mowers, potentially causing injury. Perhaps the greatest disadvantage, however, is that these mulches do not contribute organic matter to your soil.

- **Crushed stone, gravel, volcanic rock.** These mulches are available in a wide variety of textures, colors, and materials and are used in rock gardens, driveways, and walkways. Think carefully and make sure you really want this type of mulch before putting it in place, because these mulches are more or less permanent. It is best to underlay these mulches with landscape fabric to reduce movement of stones into the soil. Once gravel becomes mixed with the soil, it is nearly impossible to get it out. Many gravel and stone mulches are made from limestone and cannot be used around rhododendrons, mountain laurels, and other acid-loving plants. When leaves, twigs, and other debris fall into coarse rock mulches, they are difficult to remove and can make the mulch considerably less attractive.

- **Plastics.** Plastic works well for keeping weeds down and retaining soil moisture. Although it prevents water from leaving the soil, it also prevents it from entering the soil-making it unsuitable for landscape plantings that depend on rainfall for their water. Plastic is best reserved for vegetable gardens where irrigation systems can be placed under the plastic and bare spaces left between rows to allow water entry into the soil.

- **Geotextiles.** These are fabric mulches of polypropylene or polyester. They work much as plastic does, but allow water and fertilizer to enter the soil. For the best weed suppression, choose closely woven geotextiles. Generally the fabric is placed on weed-free ground and covered with another mulch, such as wood chips, to improve its appearance, keep it in place, and reduce damage to the fabric by the sun's rays. With these mulches, it is important to remove weeds as soon as they are noticed. Otherwise, roots can grow right through the fabric and become very difficult to pull.

For more information on selection, planting, cultural practices, and environmental quality, contact your local Virginia Cooperative Extension Office. If you want to learn more about horticulture through training and volunteer work, ask your Extension agent about becoming an Extension Master Gardener. For monthly gardening information, subscribe to *The Virginia Gardener Newsletter* by sending your name and address and a check for \$5.00 made out to "Treasurer, Va. Tech" to The Virginia Gardener, Department of Horticulture, Virginia Tech, Blacksburg, VA 24061-0349. Horticultural information is also now available on the Internet by connecting with Virginia Cooperative Extension's server at <http://www.ext.vt.edu>

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Mulching for a Healthy Landscape



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Mulching for a Healthy Landscape

For as long as trees have grown in forests, leaves and needles have fallen to the ground and formed a natural protective layer over the soil. This same protection can be given to the plants in our landscapes by mulching. Mulching can make a big difference in the success of your landscape. **Mulches conserve soil moisture, allowing you to water less often; keep down weeds; reduce erosion; keep plant roots cool; provide winter protection; and make your yard more attractive.**

Mulches also simplify lawn mowing around trees and shrubs. A ring of mulch allows you to bring your lawn mower right up to the edge of the mulch, eliminating the need for string weeders. At the same time you are protecting tree trunks and surface roots from damage by mowing and clipping equipment.

Selecting the best mulch for your needs

Many materials can be used for mulching. How do you decide which mulch is best for you? All mulches have different characteristics, some of which may be advantages in some situations and disadvantages in others. See the list of mulches in this brochure for information on individual mulches. Before choosing a mulch, however, consider how you will use it.

- **Summer mulches.** Summer mulches are in place during the growing season and are used primarily for flowers and vegetables. Their roles are to retain moisture, reduce weed growth, and moderate soil temperatures. Summer mulches are often left in place through the winter to reduce erosion. For perennial plants, they can also be supplemented by winter mulches.
- **Winter mulches.** Mulches used primarily to protect shrubs and flowers from severe winter temperatures and frost heaving are called winter mulches. They are laid down in late fall and serve as insulation during the winter.
- **Permanent mulches.** Permanent mulches are used where mulch is desired year round and does not need to be disturbed—for example, in paths and around trees and shrubs. If organic material is used, “permanent” mulches will still need to be replenished annually.

How to mulch

Summer mulches for annual flowers and vegetable gardens are normally applied in midspring, once the soil

has warmed enough for active root growth. For best weed suppression in a perennial border, apply mulch in early spring, before the forsythia blooms. For best results, remove any existing weeds before applying mulch. Mulches applied for winter protection should be laid down ‘in early winter, once the soil has cooled but before it has frozen.

For trees and shrubs, spread mulch evenly to a depth of 2 to 3 inches. For trees and shrubs in beds, mulch the entire bed. For those in a lawn, mulch a wide ring (extending from 3 to 6 feet out from the trunk) around each plant. Never pile mulch against tree trunks. Pull mulch back away from the trunk about an inch or so. As organic mulches decompose, they may need to be replenished somewhat every year; but don’t let mulch build up to depths greater than about 4 inches.



Mulch properly applied

Mulch too deep

For flower beds, mulch can be applied up to 3 inches deep (after settling), but should be kept pulled back slightly from plant stems. Mulches should thoroughly cover an area to a uniform depth to be most effective. Low or bare spots are prone to weed problems.

Organic mulches

Mulches made from plant material are organic mulches. Over time, organic mulches will decompose and become part of the soil. This is a great advantage, because this decomposition adds organic matter to your soil, helping the soil to better retain water and nutrients—giving you healthier plants. This means, however, that organic mulches will have to be replenished from time to time.

- **Bark.** Bark mulches are usually made from the by-products of pine, cypress, or hardwood logs. Most common are shredded bark and bark chunks. Bark mulches resist compaction, will not blow away, are very attractive, and are readily available. Some shredded barks, such as cypress, decompose slowly.

Bark chunks (also called nuggets or decorative bark) decompose most slowly but do tend to wash away.

- **Wood chips.** Wood chips are made from many different kinds of trees. Wood chips make an excellent mulch that resists compaction, stays put, and weathers to an attractive silvery-gray color. In addition, they are often available from municipalities or utility companies for little or no cost. However, such “bargain” mulches are likely to contain seeds from trees and other plants that can sprout and create weed problems. Also beware of such mulches that have not been properly aged or composted. Mulch that has not been aged can be toxic to plants due to the formation of organic acids during the decomposition process, and, if placed too close to tender stems, will harm or kill plants. Purchasing mulch from a reputable dealer who has monitored the decomposition process to achieve a high quality, aged product will do a lot to ensure that your valuable plants will not be harmed.
- **Sawdust.** Sawdust is often readily available and may be helpful in acidifying the soil around rhododendrons and other acid-loving plants. Sawdust is a poor choice in most situations, however, as weed seeds easily sprout in the mulch. It also tends to cake, making it harder for water to soak into the ground. Sawdust is low in nitrogen, so it robs nitrogen from the soil as it decomposes. Therefore, more nitrogen fertilizer may be needed. A 3- to 6-inch layer of sawdust does work well, however, for mulching pathways.
- **Straw.** Straw makes a good winter mulch or mulch for the vegetable garden. It is inexpensive, suppresses weeds, conserves moisture, and insulates well. On the other hand, it is not very attractive, may contain crop seeds, and is extremely flammable. It is important to purchase “straw” rather than “hay,” as hay contains many weed seeds. Mulch 6 to 8 inches deep.
- **Pine straw.** Pine needles are attractive, decompose slowly, resist compaction, and are easy to work with. They are often available commercially or are free if you have pine trees on your property.
- **Shredded leaves.** Leaves that have been shredded with a composting mower are sometimes used as a summer mulch, although they decompose very quickly. Whole leaves can be used instead, but they tend to mat together and block water movement into the soil.
- **Newspaper.** Three layers of newspaper can effectively keep down weeds, especially in the vegetable garden. To keep the paper from blowing away, weight it down using another mulch or other means. Shredded newspaper also works well.