



# Mulching

*Mulching enriches and protects soil, helping provide a better growing environment.*

## **In your backyard**

Mulching is one of the simplest and most beneficial practices you can use in the garden. Mulch is simply a protective layer of a material that is spread on top of the soil. Mulches can either be organic—such as grass clippings, straw, bark chips, and similar materials—or inorganic—such as stones, brick chips, and plastic. Both organic and inorganic mulches have numerous benefits.

Mulch:

- protects the soil from erosion
- reduces compaction from the impact of heavy rains
- conserves moisture, reducing the need for frequent waterings
- maintains a more even soil temperature
- prevents weed growth
- keeps fruits and vegetables clean
- keeps feet clean, allowing access to garden even when damp
- provides a "finished" look to the garden

Organic mulches also improve the condition of the soil. As these mulches slowly decompose, they

*Mulching works in gardens, around trees and shrubs, and in other areas.*

*Backyard  
Conservation*

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**One in a series of 10 tip sheets on backyard conservation**

provide organic matter which helps keep the soil loose. This improves root growth, increases the infiltration of water, and also improves the water-holding capacity of the soil. Organic matter is a source of plant nutrients and provides an ideal environment for earthworms and other beneficial soil organisms.

While inorganic mulches have their place in certain landscapes, they lack the soil improving properties of organic mulches. Inorganic mulches, because of their permanence, may be difficult to remove if you decide to change your garden plans at a later date. Therefore, this tip sheet is limited to the use of organic mulches.

## Mulch materials

You can find mulch materials in your own yard! Lawn clippings make excellent mulch. While not particularly attractive for a flower bed, they work wonderfully in the vegetable garden. The fine texture allows them to be spread easily even around small plants. However, grass clippings are becoming scarce because of the increased popularity of mulching lawnmowers that provide many of the same benefits of mulching to lawns. Newspaper, as a mulch, works especially well to control weeds. Leaves are another readily available material to use as mulch. Leaf mold, or the decomposed remains of leaves, gives the forest floor its absorbent spongy structure. Compost makes a wonderful mulch if you have a large supply. Compost not only improves the soil structure but provides an excellent source of plant nutrients.

Bark chips and composted bark mulch are available at garden centers. These make a neat finish to the garden bed and will eventually improve the condition of the soil. These may last for one to three years

or more depending on the size of the chips or how well composed the bark mulch is. Smaller chips tend to be easier to spread, especially around small plants. Depending on where you live, numerous other materials make excellent mulches. Hay and straw work well in the vegetable garden, although they may harbor weed seeds. Seaweed mulch, ground corn cobs, and pine needles can also be used. Pine needles tend to increase the acidity of the soil so they work best around acid-loving plants such as rhododendrons and blueberries.

## When to apply mulch

Time of application depends on what you hope to achieve by mulching. Mulches, by providing an insulating barrier between the soil and the air, moderate the soil temperature. This means that a mulched soil in the summer will be cooler than an adjacent unmulched soil; while in the winter, the mulched soil may not freeze as deeply. However, since mulch acts as an insulating layer, mulched soils tend to warm up more slowly in the spring and cool down more slowly in the fall than unmulched soils.

If you are using mulches in your vegetable garden or flower garden, it is best to apply them after the soil has warmed up in the spring. Cool, wet soils tend to slow seed germination and increase the decay of seeds and seedlings.

If adding additional layers of mulch to existing perennial beds, wait until the soil has warmed completely.

Mulches used to help moderate winter temperatures can be applied late in the fall after the ground has frozen but before the coldest temperatures arrive. Applying mulches before the ground has frozen may

attract rodents looking for a warm over-wintering site. Delayed applications of mulch should prevent this problem as, hopefully, the creatures would already have found some other place to nest!

Mulches used to protect plants over winter should be loose material such as straw, hay, or pine boughs that will help insulate the plants without compacting under the weight of snow and ice. One of the benefits from winter applications of mulch is the reduction in the freezing and thawing of the soil in the late winter and early spring. These repeated cycles of freezing at night and then thawing in the warmth of the sun cause many small or shallow rooted plants to be heaved out of the soil. This leaves their root systems exposed and results in injury or death. Mulching helps prevent rapid fluctuations in soil temperature and reduces the chances of heaving.

## Applying mulch

1. Begin by asking yourself the following questions.
  - a. What do I hope to achieve by mulching?
    - Weed control?
    - Moisture retention?
    - Soil improvement?
    - Beautification?
  - b. How large is the area to be mulched?
  - c. How much mulch will I need to cover the area?
    - Mulch is measured in cubic feet. As an example, if you have an area 10 feet by 10 feet and you wish to apply 3 inches of mulch, you would need 25 cubic feet. (10' x 10' x .25' = 25 cu. ft.)
2. Determine what mulch material to use and purchase or accumulate what you need.
  - a. Mulch can often be purchased bagged or bulk from garden centers. Bulk may be cheaper if you need large volumes and have a

way to haul it. Bagged mulch is often easier to handle, especially for smaller projects. Most bagged mulch comes in 3-cubic foot bags.

**b. Compost-**

Refer to the tip sheet on composting for information on how to make your own compost.

**c. Leaves-**

1. Collect leaves in the fall.
2. Chop with a lawnmower or shredder. Whole leaves tend to compact if wet or blow away if dry. Chopping will reduce the volume and facilitate composting.
3. Compost leaves over winter. Some studies have indicated that freshly chopped leaves may inhibit

it the growth of certain crops. Therefore, it may be advisable to compost the leaves over winter before spreading them.







**d. Grass clippings-**

1. Spread them immediately to avoid heating and rotting.

**e. Newspaper-**

1. Save your own newspapers.

**Mulch materials**

	Amount to Apply	Notes
<p>Bark mulch</p> 	2-4 inches	Smaller chips are easier to spread, especially around small plants. Excellent for use around trees, shrubs, and perennial gardens. When spreading mulch around trees, keep the mulch an inch or two away from the trunk. A couple inches of mulch is adequate. There is no need to apply the mulch 6 or 8 inches high, as often is seen.
<p>Wood chips</p> 	2-4 inches	Similar to bark mulch. If using fresh wood chips that are mixed with a lot of leaves, composting may be beneficial.
<p>Leaves</p> 	3-4 inches	Best to chop and compost before spreading. If using dry leaves, apply about six inches deep.
<p>Grass clips</p> 	2-3 inches	Thicker layers tend to compact and rot, becoming quite slimy and smelly. Add additional layers as clippings decompose. Do not use clippings from lawns treated with herbicides.
<p>Newspaper</p> 	1/4 inch	Apply sheets of newspaper and cover lightly with grass clippings or other mulch material to anchor. If other mulch materials are not available cover edges of paper with soil. Applying on a windy day can be a problem.
<p>Compost</p> 	3-4 inches	Excellent material for enriching soil.



2. Use only newspaper text pages (black ink); color dyes may be harmful to soil microflora and fauna if composted and used.

3. Use 3 or 4 sheets together, anchored with grass clippings or other mulch material to prevent blowing away.

3. The amount of mulch to apply will be determined by the mulch material you are using.

**General Guidelines:**

- a. Do not apply mulch directly in contact with plants. Leave an inch or so of space next to plants to help prevent diseases flourishing from excessive humidity.
- b. Remove weeds before spreading mulch.

Bark mulch and wood chips are sometimes used with landscape fabric or plastic. The fabric or plastic is laid on top of the soil and then covered with a layer of bark chips. A caution to this practice: while the plastic or fabric may initially provide additional protection against weeds, as the mulch breaks down, weeds will start to grow in the mulch itself. The barrier between the soil and the mulch also prevents any improvement in the soil condition and makes planting additional plants more difficult.

### **For sources of mulch**

Check under mulches or garden centers or nurseries in the Yellow Pages. Your local community may also have wood chips from the removal of street trees that are available free to residents.

### **On the farm**

Farmers use mulches in many ways. Conservation tillage is a common practice that creates a mulch on the soil surface. Unlike the once common practice of plowing all crop residue into the soil, conservation tillage leaves the crop residue on top of the soil. These pieces of corn stalk, straw, or bean stems help protect the soil against wind and water erosion. Corn crops harvested for grain return large amounts of residue to the soil surface and are more effective in preventing soil erosion than crops with less residue such as soybeans.

Mulching is a common practice among strawberry growers in northern climates. In this situation, mulch is used to protect the crop during the winter and to help prevent early blooming of the plants. Plants that bloom too early are more likely to be damaged by spring frosts. The mulch also helps keep the berries cleaner, protecting them from soil splashing on them in the rain.

Inorganic mulches are also widely used in commercial agriculture. Clear plastic mulch can be particularly beneficial in giving warm season crops a head start. The clear plastic acts as a mini-greenhouse, warming the soil underneath it. Particularly where early sweet corn brings a premium price, this practice can give a grower a couple of weeks head start.

Also, research is showing that leaving crop residues helps hold carbon in the soil and aids in reducing greenhouse gases.