

# Mulches: The Smart Choice



## LESSON SIX

### What's Ahead

In this lesson, you'll learn about

- the advantages of using mulch;
- what to consider when you choose a mulch; and
- organic and inorganic mulches.

### What's Good About Mulches

Mulching is a great way to improve your garden's production and appearance. To mulch is to cover the soil around the plants with a protective material. You can use organic or inorganic material for mulch. Organic mulches (straw, sawdust, etc.) come from materials that were once alive. Inorganic mulches include plastics and landscape fabrics.

Here are some of the advantages of using mulch in the home garden:

1. **Mulch reduces weeds.** Just like other plants, weeds need sunlight to grow. Mulches can keep light out and lessen or prevent weed seed germination and growth.
2. **Mulch makes weeding easy.** Even if a few weeds poke through the mulch and grow, you can easily spot them and pull them out.
3. **Mulches keep moisture in the soil.** Pore space in the soil holds air and water, and plants need both. A mulch layer cuts down on evaporation, which takes place from the soil. Mulches can really help your garden in a dry summer.
4. **Mulches save on watering time.** Less time watering means you have more time for other activities. Mulches help plants grow. For example, mulched tomato plants are less apt to have blossom end rot, which is caused by uneven water and calcium uptake.

5. **Mulches keep produce clean.** When water drops hit the bare soil, soil particles can splash onto vegetables.

Mulches prevent soil splashing and mud-covered produce. Fungal spores are also kept in check when the soil is covered with a mulch. Early blight, a disease of tomatoes, can also be reduced by mulching.

6. **Mulches make a neat walkway.** A mulch pathway allows for easy travel and clean footwear in the garden.
7. **Mulches help control soil erosion.** The soil is protected from wind and rain when it is covered by a mulch layer.
8. **Organic mulches decompose and add nutrients to the soil.** The humus that forms is added to the soil. This humus or organic matter improves the tilth of the soil and encourages microorganism actions. Humus also contains nutrients that help plants grow.
9. **Mulches can help warm and cool the soil.** The temperature of the soil can be raised or lowered depending on the type and color of a mulch. Dark-colored mulches warm the soil; light-colored mulch reflects the sun's heat. Organic mulches insulate the soil.
10. **Mulches can be used to ready a new garden plot.** Spread a thick layer over the area to be used at least two months before planting. Sod decomposes under mulch, so tilling and spading is easier. Try this in the fall for next year's garden.



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### ▶ KEY POINT 1:

Mulches have many advantages: they reduce weeds, keep soil moist and prevent soil erosion.

### Some Disadvantages of Mulching

1. May raise or lower soil temperature at the wrong time.
2. May introduce weeds.
3. May tie up nitrogen.
4. May add more expense to your garden.
5. Most inorganic mulches have to be picked up and disposed of.
6. Some mulches stimulate weed growth.
7. Some mulches harbor pests.

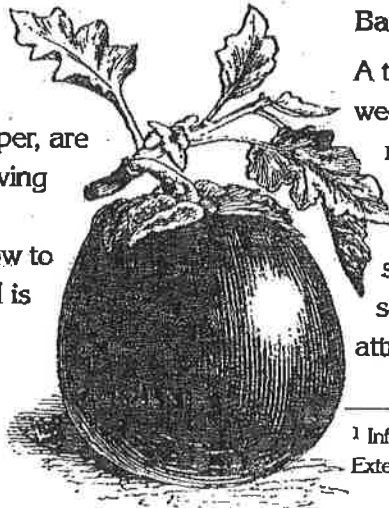
### Choosing a Mulch

When you choose a mulch, consider:

- The primary purpose of mulching.
- The plants or crops to be mulched.
- The cost and availability of the material.
- The final appearance of the mulch.

Remove or cultivate weeds before you spread the mulch evenly over the area. Moisten the area to be mulched with your garden hose or sprinkler, or wait for a soaking rain. If you use organic mulches, put them on after the soil has warmed and the vegetable plants are several inches tall. Early applications keep the soil cooler and delay crop maturity.

Inorganic mulches, such as black plastic or paper, are typically applied before sowing seed or transplanting. The mulch is placed over the row to be planted and the material is anchored with soil, stones, hooks or string. Put down plastic or paper mulch in the early morning or



evening, when it is less apt to be windy. After laying plastic mulch, slits or holes are cut into the plastic for the seeds or plants. Don't worry about moisture levels under plastic mulch. Water will move under the plastic through capillary action of the soil as the summer progresses.

### Organic Mulches<sup>1</sup>

#### Sawdust

A two-inch layer of sawdust provides good weed control. If you apply it around growing plants, add one-half pound of nitrogen per 10 cubic feet of sawdust to prevent nutrient deficiencies. Fresh sawdust contains a high percentage of carbon and very little nitrogen, and its breakdown requires that microorganisms take nitrogen from the soil at the expense of the plant.

A very thin layer of sawdust (1/2 inch) helps start seeds because it keeps moisture in. Sometimes, sawdust will get crusty and prevent water from reaching the soil. Use sawdust for garden paths and around permanent plantings. It's readily available from sawmills and tends to be inexpensive.

#### Bark and Wood Chips

A two- to three-inch layer of bark provides good weed control. Bark is slow to decompose and will not be blown about by the wind. Shredded bark decomposes more quickly than chips. Wood chips are often available free or for a small charge from professional tree pruning services, but many people find them less attractive than bark chips. Bark chips may be

<sup>1</sup> Information from a collection of University of Virginia Cooperative Extension Horticultural factsheets.

▶ **KEY POINT 2:**

Organic mulches come from materials that were once alive. Inorganic mulches are non-living materials.

purchased in large bags at retail stores. They make a very attractive mulch and are especially good for mulching around trees and shrubs, or as path material for vegetable gardens. Bark chips tend to be high priced.

### **Hay or Straw**

A six- to eight-inch layer of hay or straw provides good annual weed control. These materials decompose quickly and must be replenished to keep weeds down. They stay in place and will improve the soil as they decay.

Straw is less likely to have weed seeds. Avoid hay, which is full of weed seed, or check it before use: open up a bale and shake it out onto a clean surface. Look for seeds. Fresh legume hay, such as alfalfa, supplies nitrogen as it quickly breaks down.

Hay and straw are readily available in rural areas. City dwellers can get them at garden centers, but often at a high price. Both hay and straw are good for vegetable and fruit plantings.

### **Pine Needles**

Pine needles make an excellent mulch around shrubs, trees and in areas where you want a long-lasting cover. Pine needles can be harvested from the woods. This is rather labor-intensive, but some gardeners feel it is worth it.

Pine needles generally make the soil more acid as they decompose. Add agricultural lime with the needle mulch to cancel the acid effect.

### **Grass Clippings**

A two-inch layer of grass clippings provides good weed control. Build up the layer gradually, using dry grass. A thick layer of fresh green

grass will give off lots of heat and foul odors. However, in limited quantity, green clippings decompose rapidly and provide an extra dose of nitrogen to growing plants, as well as make fine humus.

Avoid crabgrass and grass full of seed heads. Also, do not use clippings from lawns that have been treated that season with herbicide or a fertilizer/herbicide combination. The herbicide residue may kill or stunt your vegetable plants.

Grass clippings may be used directly as mulch around vegetables or fruit plants, or they may be composted. They are an excellent source of nitrogen to heat up a compost pile, especially for gardeners without access to manures.

### **Leaves**

A layer of leaves, two to three inches thick after compaction, provides good annual weed control. Leaves will decompose fairly quickly, are easy to obtain, attractive as a mulch, and will improve the soil. They are highly recommended as a mulch.

Leaves can be shredded with the lawn mower before placing on the garden. Shredded leaves do not mat as whole leaves do.

### **Peat Moss**

A two- to three-inch layer of peat moss will give fair to good weed control. However, peat tends to form a crust if used in layers thick enough to hold weeds down. It is very difficult to wet and it tends to blown away if applied dry. Peat is also costly as a mulch. It might be more suitable as a soil booster or conditioner.

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#### Compost

A two- to three-inch layer of compost is a fair weed control. Most compost, however, provides a good site for weed seeds to grow. It is probably better to work it into the soil since it is an excellent soil amendment.

A layer of compost may be used on overwintering beds of perennials, such as asparagus or berries, to provide nutrients and help protect crowns.

#### Seaweed

A two-inch layer of seaweed can do wonders for a garden. It adds nutrients for plants and conditions the soil as it decomposes. Seaweed does not need to be rinsed. Its salt content is small and will not harm the plants or the soil.

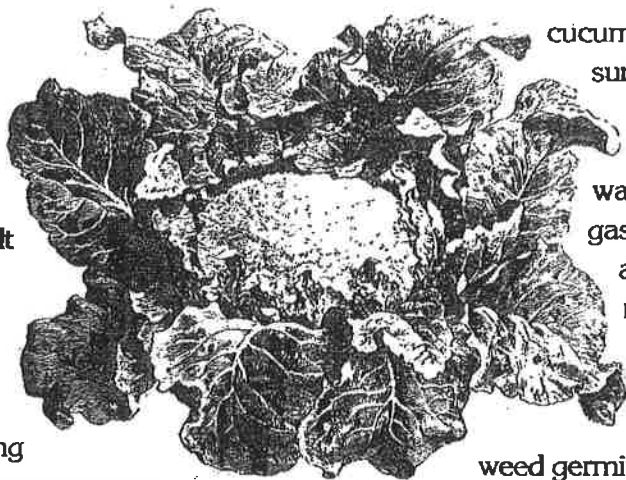
#### Inorganic Mulches

##### Black Plastic

One layer of black plastic provides excellent weed control. It does not decompose, but will break down from sunlight and must be replaced at least every two to three years.

Black plastic mulch warms the soil temperature about three to eight degrees F in the spring. Check under the mulch periodically to see that soil stays moist under the plastic; cut holes in it if water doesn't seem to be getting through.

Black plastic benefits warm-season crops such as tomatoes, eggplant, peppers,



cucumbers, cantaloupes and summer squash. A new type of mulch is porous, to allow penetration of water and exchange of gases between the soil and air. Infrared transmitting mulch (IRT) allows certain wavelengths of light through to warm the soil, but prevents weed germination.

Black plastic is easy to get but is fairly expensive.

##### Clear Plastic

One layer of clear plastic provides little weed control; in fact, it makes an excellent environment for growing weeds. This material is most often used to warm the soil early in the spring to prepare for planting. It raises the soil temperature by 10 degrees F or more. Clear plastic is common and cheaper than black plastic.

##### Paper

Using two to four layers of newspaper provides good weed control. It decomposes within a season, is readily available and cheap. Cover with an organic mulch, such as sawdust or straw, to hold paper in place.

Newspaper is excellent for use in pathways and around newly set strawberry plants. Printers no longer use lead compounds in ink for black and white newsprint, so you don't need to worry. Avoid using colored sheets or shiny or slick paper ads or fliers, since these may contain lead.

▶ **KEY POINT 3:**

Apply **inorganic** mulches, such as black plastic or paper, before sowing seed and early in the morning. Apply **organic** mulches, such as straw or compost, after soil has warmed and plants are several inches tall.

### Floating Row Cover Fabrics

These lightweight materials can be used over plants to raise the soil and air temperatures and boost plant growth. However, beware: weeds grow very well under cover too! The material can last two or more years if well cared for. It must be removed at blossom time so that bees can pollinate the plants.

### Choose the Right Mulch

Smart gardeners know how and when to apply specific mulch types. Too much mulch may harm plant growth, restricting water, air and micro-organism activity. Mulch can also attract some pests to the garden, such as slugs, beetles and fungal diseases. These pests desire moisture, and the mulch provides moisture as well as a great haven for protection and reproduction. The synthetic mulches are not renewable. However, with care, they can last two years. Some organic mulches may bring weed seeds to your garden.

The key is to select a proper mulch. Try mulches in your garden this growing season. You'll be glad you did.

### Summary

In this lesson, you learned how mulches can help you garden smarter. Now answer the **Study Questions** and do a **Study Activity** to apply your new knowledge. In the next lesson, you'll learn about pest management.

### Study Questions

1. List the advantages and disadvantages of using mulch in your garden.
2. What is the difference between organic and inorganic mulches?
3. When is the proper time to apply mulches such as newsprint or black plastic? Straw or compost?
4. In what condition should the soil be in before applying any mulch?

### Study Activities

#### 1. Mulch Field Trip

Visit your local garden center and list the mulch materials available for sale. See *Garden Store Visit: Mulches Chart* on page 37.

#### 2. Mulch Test Gardening

Try at least two different mulches in your garden this growing season. Evaluate the success of each.

#### 3. Tomato Mulch Trial

Use a mulch on at least six tomato plants and no mulch on at least six tomato plants. Note any differences between the plants' growth, fruit quality and pest occurrence.

#### 4. Mulches to Try

Make a list of the most available mulch materials to you. Specify source of each mulch. Keep this information as part of your garden records.

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#### Other Resources

These materials are available through your county office:

- Bulletin #7101, Best Management Practices for the Home, Part 2: Home Gardening (includes mulch chart)
- Bulletin #1143, Home Composting



#### Study Question Answers

1. Advantages: Reduce weeding easy; keep soil moist; save watering time; keep produce clean; create walkways; control soil erosion; add nutrients (organic); help warm and cool the soil; prepare new plots. Disadvantages: May raise or lower soil temperature at wrong time; may introduce weeds; may tie up nitrogen; adds expense; have to pick up and dispose of; may help weeds grow better.
2. Inorganic mulches don't decompose. Inorganic mulch is from non-living material.
3. Paper and plastic: apply before sowing seed or transplanting in the early morning or evening. Straw or compost put on after soil has warmed and plants are several inches tall.
4. Remove or cultivate weeds first; moisten soil.

Learning More  
About Mulches

GARDEN STORE VISIT



Mulch Type	Cost	Life Length	Use	Decomposable	
				Yes	No

