



Fact Sheet Series

Mulching

#7

Mulching is the process of adding a material, organic or inorganic, to the surface of your garden soil. Whether you grow fruits and vegetables, flowers, or perennial ornamentals, mulching is an important way of protecting and improving your soil. Soil is fragile, and without protection from either living plants or mulch it is vulnerable to erosion, dehydration, loss of structure, and compaction.

Effort Scale:

Easy	1	2	3	4	5	Hard
------	---	---	---	---	---	------

Mulching can be an easy to intermediate task depending on your application. Much of the work comes in simply collecting the mulch materials.

Why Mulch?

Mulching helps protect your soil from environmental factors like wind, rain, sun, and human agricultural practices which cause compaction, erosion, and nutrient loss. In nature, soil is almost always covered by either plants, such as in the prairie grasslands, or mulch, such as the debris on a forest floor. As mulch slowly decomposes, it returns many nutrients to the soil.

What Can I Use for Mulch?

There are a great variety of materials that can be used as garden mulch. Most mulch materials are organic in nature and have some particular applications:

- ◆ Leaf mold (decomposed leaves) and leaves (except black walnut) (add nitrogen to your soil and retain water)
- ◆ Grass clippings (add nitrogen to your soil and great for young plants)
- ◆ Compost and aged manure (great all-around nutrient source)
- ◆ Wood chips, bark mulch, and sawdust (great for acid loving crops, ornamentals and pathways)
- ◆ Pine needles (for acid loving plants like berry crops and native plants)
- ◆ Straw (long lasting and effective for water retention)



Sawdust is a popular mulch for berry crops.

There are also a number of synthetic and manufactured mulches:

- ◆ Newspaper and cardboard (good for controlling weed problems)
- ◆ Plastic and biodegradable plastic (good for hot weather crops like tomatoes but do not supply nutrients)
- ◆ Woven landscape fabric (good for long term mulching of perennials like grapes, allows water penetration)

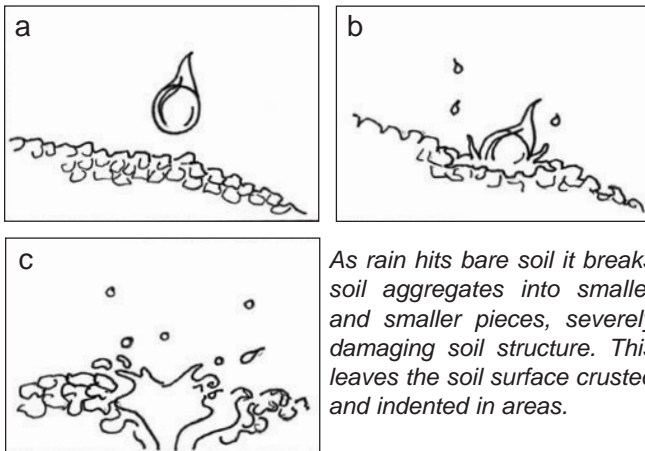


This gardener has used newspaper to help conserve water and control weeds.

How Does Mulch Work?

1. Protection from Rain Impact

Rain has a significant impact upon soil structure and quality. The impact of the rain (and irrigation sprinklers) upon the soil's surface can break up soil aggregates leaving the soil compacted and difficult to work with, often resulting in crusting at the surface. Mulch acts as a blanket to protect the soil from the impact of rain – especially important in the wet winter months. The mulch also slows down the rain's entry into the soil, reducing its nutrient leaching effects.



2. Protection from Erosion

Top soil can easily be blown away from a garden or farm by high winds. It is estimated that the amount of top soil lost to erosion each year in the United States actually outweighs the amount of food harvested from the land! Erosion can also be caused by rain (especially on sloped land), wind (especially on dry soil) and human activity (from excessive tilling or disturbing of the soil). Keeping the soil covered with mulch will help prevent erosion. As the mulch decomposes it releases humic acids into the soil that help to effectively bind soil particles together.

3. Supplying Nutrients and Energy to Plants and Micro-organisms

At the same time that mulch is protecting the soil, it is slowly decomposing and adding nutrients to the soil. As the mulch materials decompose, the nutrients stored within the mulch are released for the use of both plants and micro-organisms. This slow release fertilizer helps sustain plants in adverse conditions. The increased organic matter being added to the soil also helps improve soil structure.

4. Evaporation Reduction

In the summer, the sun can draw moisture out of the soil at the rate of almost 3 cm (one inch) each day. Mulch acts as a sort of sunscreen, which not only prevents water from evaporating but also helps regulate the soil temperature. When it gets too hot, plants stop growing. Mulch will act as a buffer to keep plants more comfortable.

5. Weed Control

Many common garden weeds need light to germinate. Mulching your soil helps prevent weeds from getting access to light. The weeds will have a very difficult time penetrating thick layers of mulch, and those that do are generally very easy to pull out since they are rooted into the loose mulch. Newspaper and cardboard make great mulches for weed control.

How Do I Mulch?

The act of mulching itself is one of gardening's easiest activities. Some general rules:

- ◆ An 8 cm (3 inch) layer of mulch is good for veggies or woody perennials like ornamental shrubs.
- ◆ Up to 30 cm (8 – 12 inches) of mulch can be used for larger trees.
- ◆ Mulch can be applied over entire garden beds, or in a concentrated ring around individual plants.
- ◆ Woody plant stems or trunks may rot if they are covered with mulch, so it is important to leave a space of 5-10 cm (2-3 inches) around the plant's base.

Veggie Garden Mulching

When mulching in your veggie garden, light mulches such as leaves, grass clippings, crop residues, compost or aged manure are ideal. These mulches make it easy to shape the mulch around your plants. They also decompose quickly, thus providing more nutrients to your fast growing edible crops. Annual veggies will often send new feeder roots into fresh mulch.

If you have been mulching your veggie garden over the winter, it is important to remove the mulch for a short period in spring to



Compost makes a wonderful mulch, conserving water and providing nutrients to plants.

allow the soil to warm up. This will also help reduce slug damage as they can thrive in spring under a safe cover of thick mulch. Once the soil is warmed up, you can return the mulch to the soil to help prevent the soil from getting too hot (especially with delicate plants like lettuce and spinach), and to prevent evaporation in the hot summer sun.



This cover crop has been cut down and is mulched with the cutting to help accelerate decomposition. Another crop will follow it in a few weeks.



This native plant garden benefits from a heavy mulch of compost screenings.

Perennial and Tree Mulching

For mulching perennials and trees, rough mulches such as unsifted compost, straw, bark mulch and wood chips work very well. These mulches decompose slowly - acting as a slow release fertilizer - and thus can also be applied very thickly, ensuring they last a long time. It is particularly important with woody plants to keep the mulch away from the stem or trunk as this could cause the bark to rot as the mulch decomposes.

Sheet Mulching

Sheet mulching is a technique designed for restoring poor, depleted or compacted soil to a state where it can be productive. It is effective in areas where the soil is infested with pernicious weeds or where the topsoil has been removed. If you plan to convert your lawn to garden, this is a good technique. The basic principle in creating a sheet mulch is to mimic the way in which forests continuously preserve and enrich their own soils.

- ◆ Lay down a thick, heavy base layer of overlapping newspaper, cardboard, old natural fabric clothing

or carpet to smother weeds and provide a layer of carbon. Moisten.

- ◆ Alternate thinner layers of nitrogen rich materials like food scraps, yard trimmings, seaweed, manure and animal bedding, with brown layers of newspaper, cardboard, fall leaves, chipper waste. Moisten as needed.
- ◆ Build up to about 4-10" deep (the materials will break down to about half this height). Top off with a brown layer.
- ◆ These layers of decaying matter attract beneficial soil organisms that will break up the underlying soil. Tubers, large seeds and transplants can be planted into small pockets of topsoil amongst this new weed free, rich soil. When planting, make a hole in the base layer for your plant to put it's roots through.

By sheet mulching, you save yourself the work and time it takes to dig out weeds and turn soil, and the existing soil ecology remains intact rather than being turned upside down!

Mulching Tips

Careful management of mulch applications can reduce any detrimental side effects.

High carbon mulches like sawdust, cardboard, or straw can absorb nitrogen from your soil, robbing this vital nutrient from your plants. Mixing these high carbon mulches with grass clippings, aged manure, or compost will help reduce their nitrogen draw from the soil. Watering with a comfrey or nettle tea will also help.

Slugs and rodents love mulch and can thus become a problem in your garden. Keeping your mulch at only a few inches thick will help prevent rodents, and using rough mulches like straw can help prevent slugs. Periodically disturbing the mulch can also deter garden pests.

Mulching is an extremely important technique for effective organic gardening. While you may find a few problems and hurdles your first few times using mulch, it will quickly become an intuitive and energy saving tool that will greatly increase the health of your garden soil, and thus the health of your plants and family.

For more detailed information on mulching try these books: *The Mulch Book*, by Stu Campbell; and *The Organic Way to Mulching* from Rodale Press. Or call the Compost Education Centre's hotline at 386-WORM.

How To Build Your Own Hoop Bin

This wire mesh hoop bin can be used to store large amounts of leaves throughout the season. It can be easily built using the following materials:



Materials:

◆ **1/2" Wire mesh / Hardware cloth**
1 piece @ 7' X 3'

◆ **Plywood Lids**
27" diameter
(As an alternative to plywood, a made to measure piece of sheet metal, wire mesh or recycled plastic will do.)

◆ **Hardware**
20 mesh staples (1" galvanized)
2 carriage bolts (3/8" x 2 1/2")
2 wing nuts (3/8")
2 washers (1/2")

◆ **Wood**
1" X 4" rough cedar
2 boards @ 3'

Construction:

Step 1:

Cut wire and wood to desired length.
Wire: length 7' x width 3'
Wood: length 3'

Step 2:

Attach wire to wood.

Step 3:

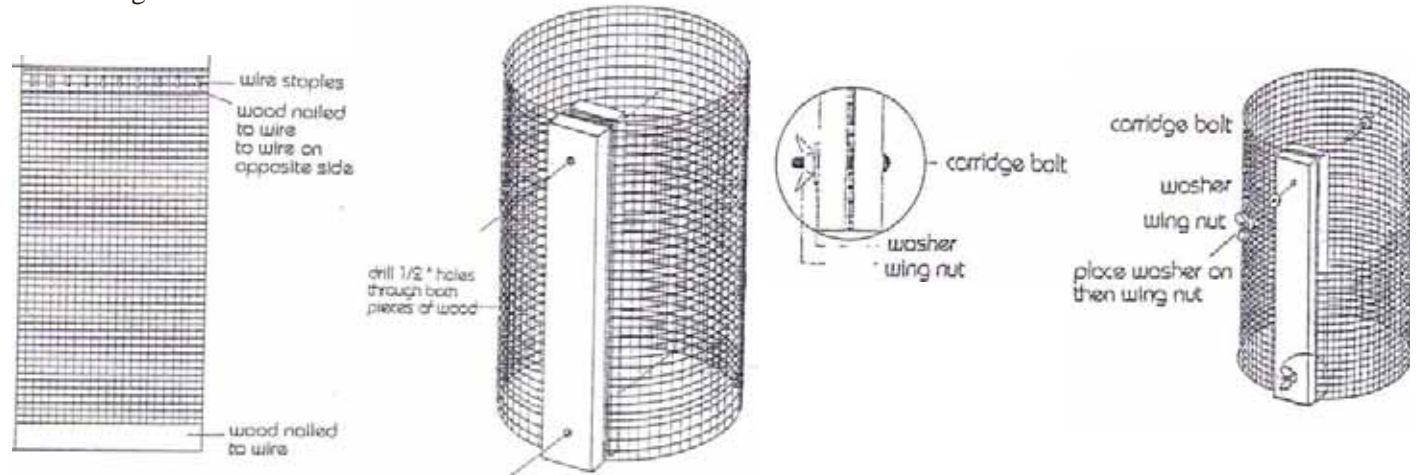
Form a cylinder with wire.

Step 4:

Insert carriage bolts through holes from inside of cylinder to the outside.

Step 5:

Place the lid on your hoop bin.



CONTACT US:

Greater Victoria Compost Education Centre
1216 North Park Street, Victoria, BC V8T 1C9
Phone: (250)386-9676 Fax: (250)386-9678
E-mail: info@compost.bc.ca
Web site: www.compost.bc.ca
Open: Wed-Sat, 10 a.m. - 4 p.m.

We sell composting equipment, gardening guides and more. Call, e-mail, drop by or visit our web site.

**Call the Compost Hotline:
386-WORM**



Base funding provided by the Capital Regional District and City of Victoria. Additional support provided by...