Mulching

A mulch is anything that is applied to the surface of the soil to:

- Protect soil from erosion and compaction
- Conserve moisture
- Inhibit weed growth
- Protect plants from weather extremes

Mulches can be made from landscape materials or rocks, paper, cardboard or plastic can be used.

Mulching



Many biodegradable materials can be used to make mulch: Branches, stalks, cardboard, pine cones, leaves and tree trimmings.

Mulching



Not all landscape materials can be easily composted, such as bush and tree trimmings. These can be shredded and used as a mulch.

Mulching





Mulch can be made by hand or with the use of machinery. Secateurs can be used to cut up small amounts of materials. A shovel or machete can be used on a wooden block or piece of plywood to chop up stalks. Some mowers can be used to make mulch or be modified to chip up materials as seem above.

Mulching





Small petrol or electrically powered chippers can be used to make mulch.

Mulching



Better yet, tree surgeons are a great source of mulch. Most of the time, this material is landfilled and wasted.

Mulching



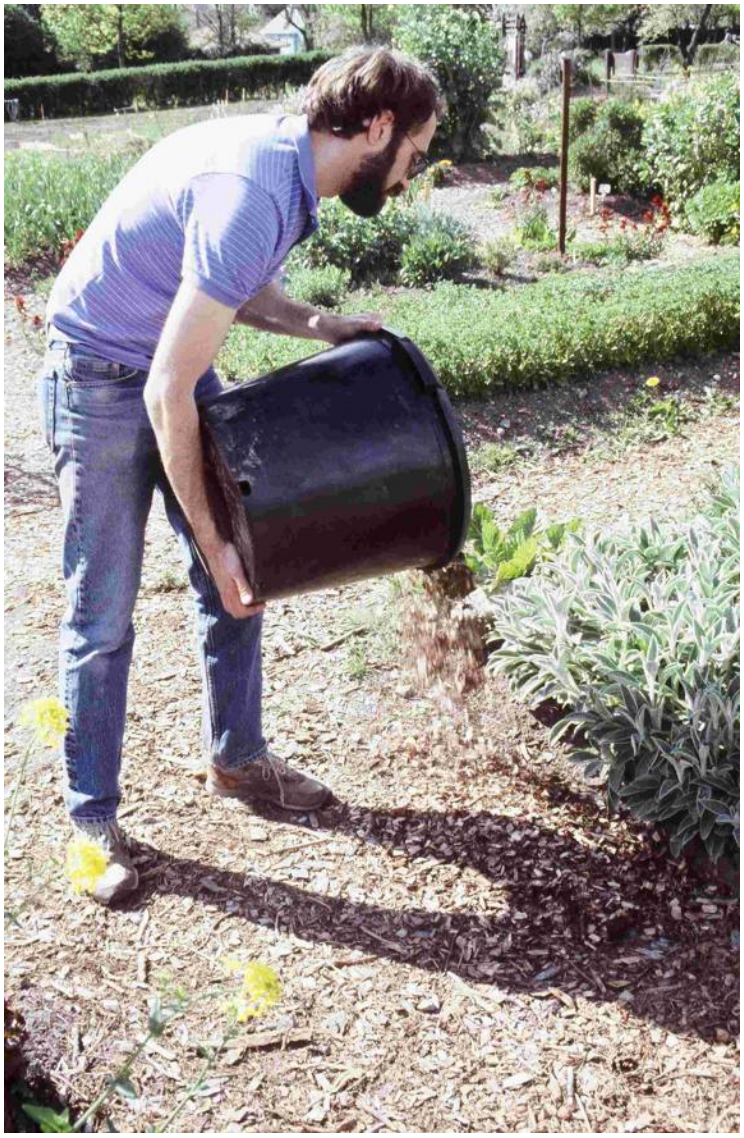
A beautiful wood chip mulch made from tree trimmings.

Mulch Applications

Mulch can be used in a variety of applications, including:

- As a path material of in play areas for adults or children
- In annual planting beds
- In perennial planting areas
- Around individual trees or shrubs
- As a winter cover
- For erosion control

Mulch Applications



Mulch can be used as a path material or in play areas for adults or children (patio or under play ground equipment)

Application guidelines include:

- Cut away vegetation & remove weeds.
- Place commercial weed barrier, plastic sheeting or cardboard down first.
- Cover with 3-6” of mulch.
- Replenish annually as needed.

Mulch Applications



Mulch Applications



Mulch Applications

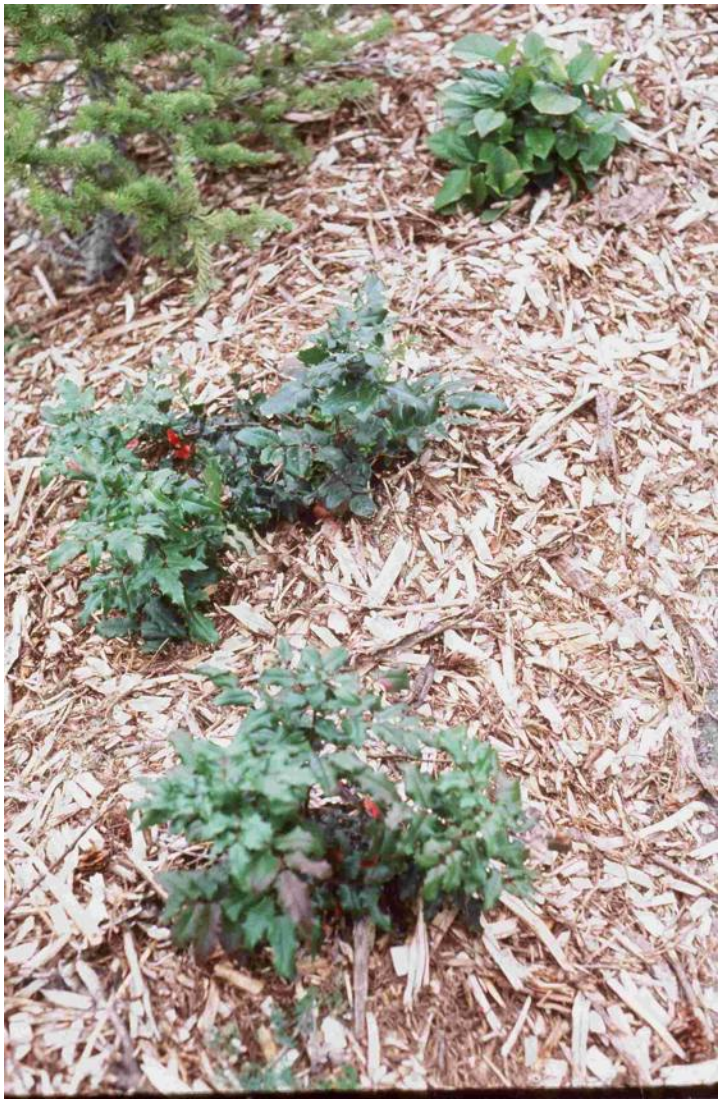


Softer garden materials such as grass cuttings or leaves can be used to control weeds, stimulate plant growth, conserve moisture and improve soil quality over time in annual planting beds.

Mulching for Perennials



Mulch Applications



For perennial planting areas:

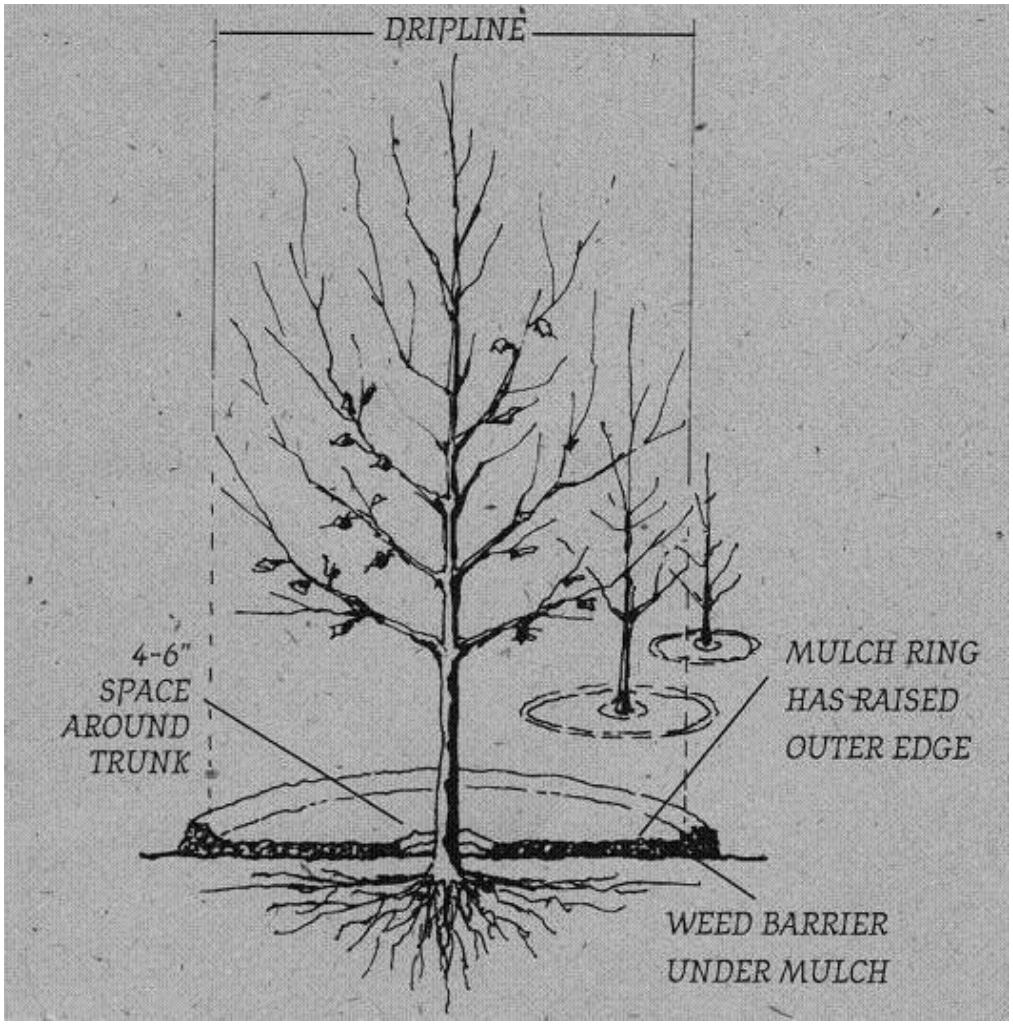
- Weed area prior to application
- Apply 2-6” any time of year (thin for smaller plants and thicker for larger shrubs or small trees)
- Spread evenly over area
- Keep mulch away from plant stems
- Pine needles and leaves make a good mulch for acid loving plants such as rhododendrons, azaleas, lilies of the valley, blueberries or raspberries
- Be aware that thick mulches are harmful to shallow-rooted plants such as azaleas or rhododendrons so 1-2” would be sufficient

Mulch Applications



Mulch Applications





Mulch can be used around individual trees or shurbs

Mulch Applications



Leaves, pine needles or straw can be used to protect planting areas over winter.

Mulch Applications



Mulch can be applied to steep inclines around perennial plantings to control erosion and help plants become established.

What Kind of Food Is Suitable for Home Composting?

Due to potential problems with odours and pests, only vegetative food scraps should be composted at home.

Plant Derived Materials = YES	Animal Derived Materials = NO
Vegetable trimmings and skins	Fish or Meat of any kind- raw or cooked
Fruit peels, cores and rinds	Animal fat, bones, skins and guts
Spoiled fruit or vegetables	Cooking oils or grease
Coffee grounds and filter	Dairy products: cheese, yogurt, cream, milk
Tea bags	Eggs or egg shells
Bread, crackers, biscuits, cakes	Sauces or soups with meat or fish
Cereals, pasta, rice, beans	
Cooked vegetative plate scrapings	
Soiled napkins or paper towels	
Non-coated paper plates or cups	

Food Scraps Suitable for Composting



This is the sort of food we want to compost...Any questions?

Collecting Food Scraps for Composting



Plastic buckets can be used to collect vegetative food scraps in the kitchen.

Collecting Food Scraps for Composting





A bucket with a lid is essential for controlling odours and preventing flies from laying eggs in the food scraps.

Composting Food Scraps: Worm Bins





Worms are nature's best composters. They breathe through their skin so they require a dark and moist environment.

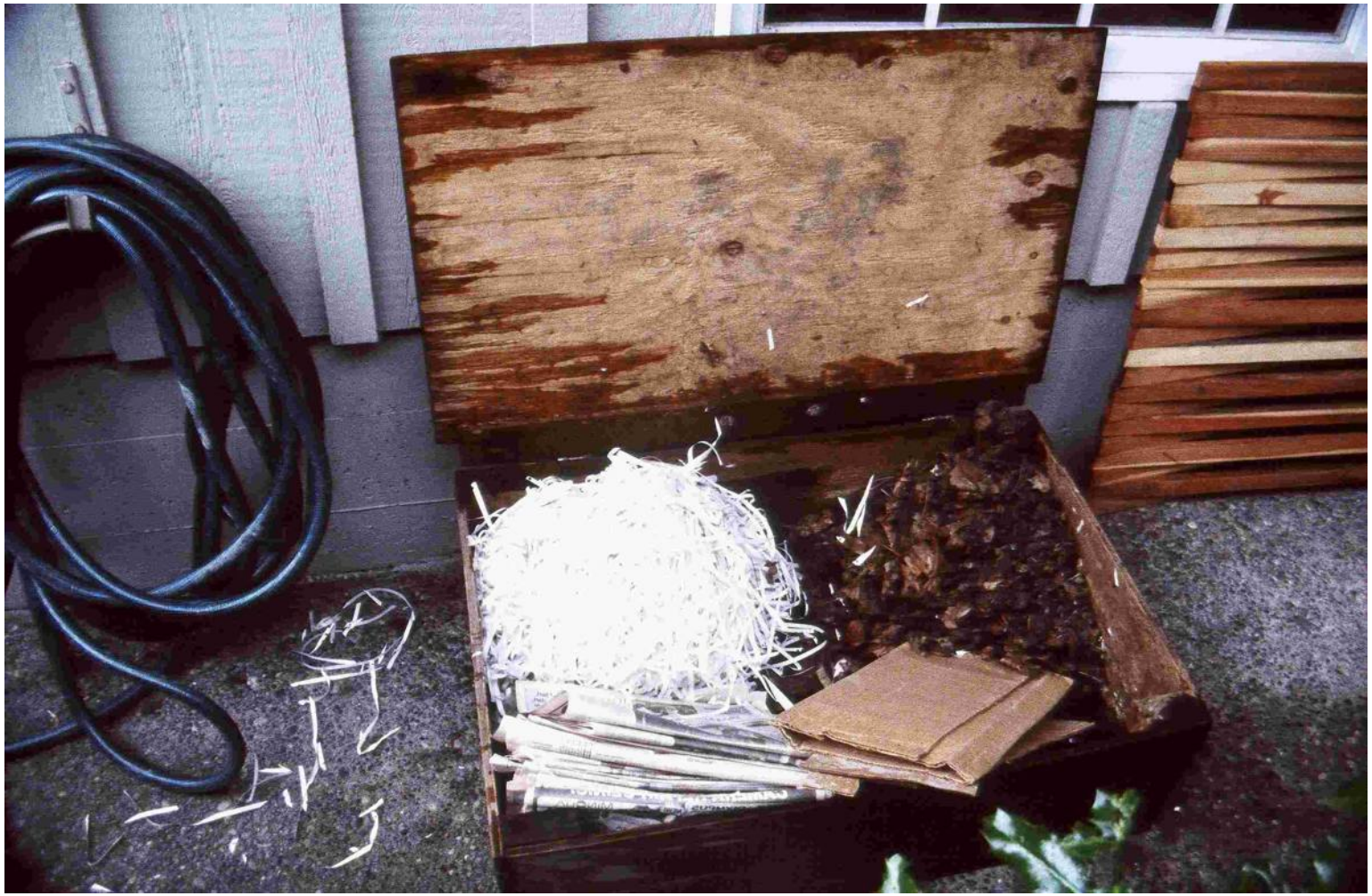
Composting Food Scraps: Worm Bins





Here are two of the most common wormeries: worm box to the left and stackable worm trays to the right

Composting Food Scraps: Worm Bins



All worm systems require bedding, typically a high carbon or "brown" materials such as paper, cardboard, leaves and/or straw.

Composting Food Scraps: Worm Bins





Bedding must be shredded and soaked in water so that worms can move around and breathe. Be sure to add some soil or sand to the bedding. This grit helps the worms “chew” the food as it passes through their guts.

Composting Food Scraps: Worm Bins





Once the bedding is placed into the wormery, worms and food can be added. At first, feed the bin slowly to allow the worms to get established.

Composting Food Scraps: Worm Bins



Food can be added in trenches on a weekly or every other week basis from left to right. Be sure to cover fresh materials with bedding. Once you reach one end of the bin, start trenching on the other side again where the food has been eaten by the worms.

Composting Food Scraps: Worm Bins



Cover the bedding with sheets of newspaper. This will serve as a barrier to flies as well as tell you if the bedding is wet enough. If the paper dries out, water the worm bin.

What System Should You Use?

- Depends of the type of material you have:
  - woody material = mulching
  - grass = grasscycling
  - leaves = leaf mould
  - mix = composting system
  - A combination of systems can be used
- Depends on the quantity of material you have:
  - lots = turning system
  - little to moderate = holding system
- Space you have & how fast you want the compost
- Quality of the compost & how you'd like to use it

Compost Uses Around the Home



Compost can be used as:

- A mulch
- A soil amendment
- An ingredient in potting soil
- An ingredient in a seed starting mix
- A way to make compost tea

Compost as a Mulch

Benefits of compost as a mulch include:

- Protects roots
- Releases nutrients
- Conserves soil moisture
- Smothers and inhibits weeds
- Prevents erosion
- Builds soil and improves soil quality

Using Compost as a Mulch



5-10cm of compost can be used around annual flowers, herbs or vegetable plants. The following spring, the leftover mulch can be dug into the soil to prepare it for new annuals.

Using Compost as a Mulch



The plants love it!!!

Be sure to keep the compost mulch away from plant stems.

Using Compost as a Mulch





Compost mulch can be used around perennial plantings as well. Again, be sure to keep the mulch away from trunks & stems.

Using Compost as a Mulch



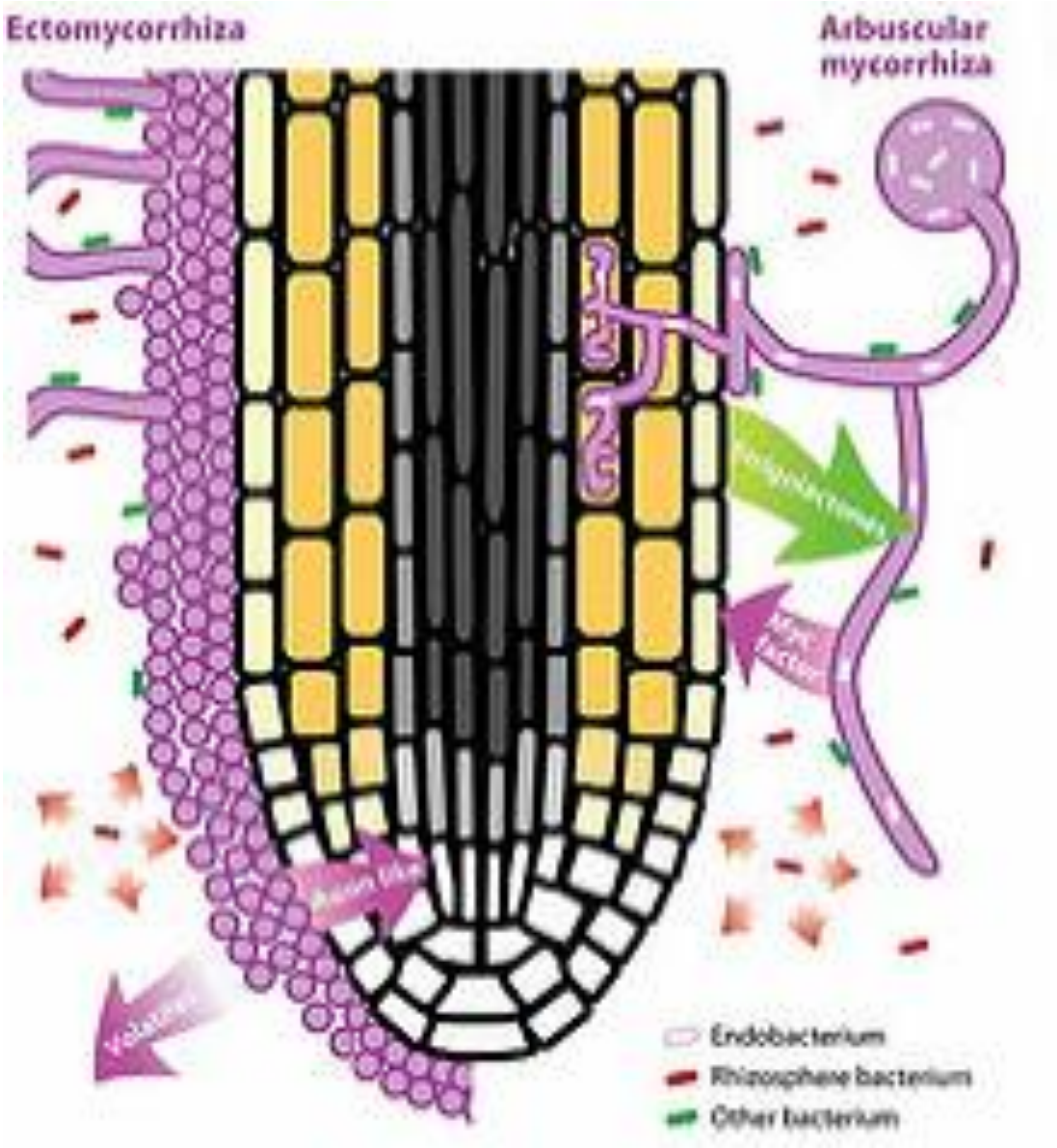
Compost mulch can be used in growing areas with both annuals and perennials.

Using Compost as Soil Amendment

Benefits of compost as a soil amendment include:

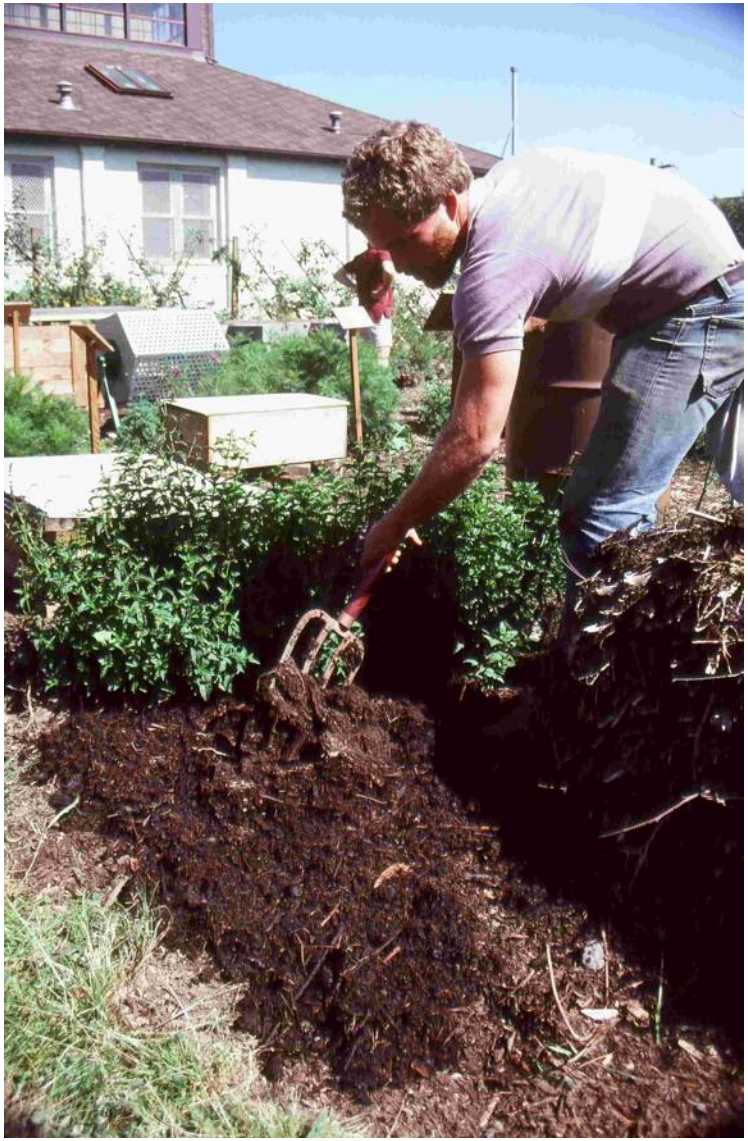
- Provides essential nutrients and minerals.
- Supplies valuable organic matter that improves soil structure, porosity and bulk density.
- Improves drainage and moisture penetration in heavy soils.
- Increases soil moisture and nutrient holding capacity in light or sandy soils.
- Prevents soil compaction and erosion.
- Buffers soils acidity for improved nutrient availability.
- Improves cation exchange capacity.
- Increases crop yields.
- Suppresses plant diseases.

Bacteria and Fungi in the Soil



Using Compost as Soil Amendment





For growing beds, add 3-10cm on top and dig in to a depth of 20-25cm.

Using Compost as Soil Amendment





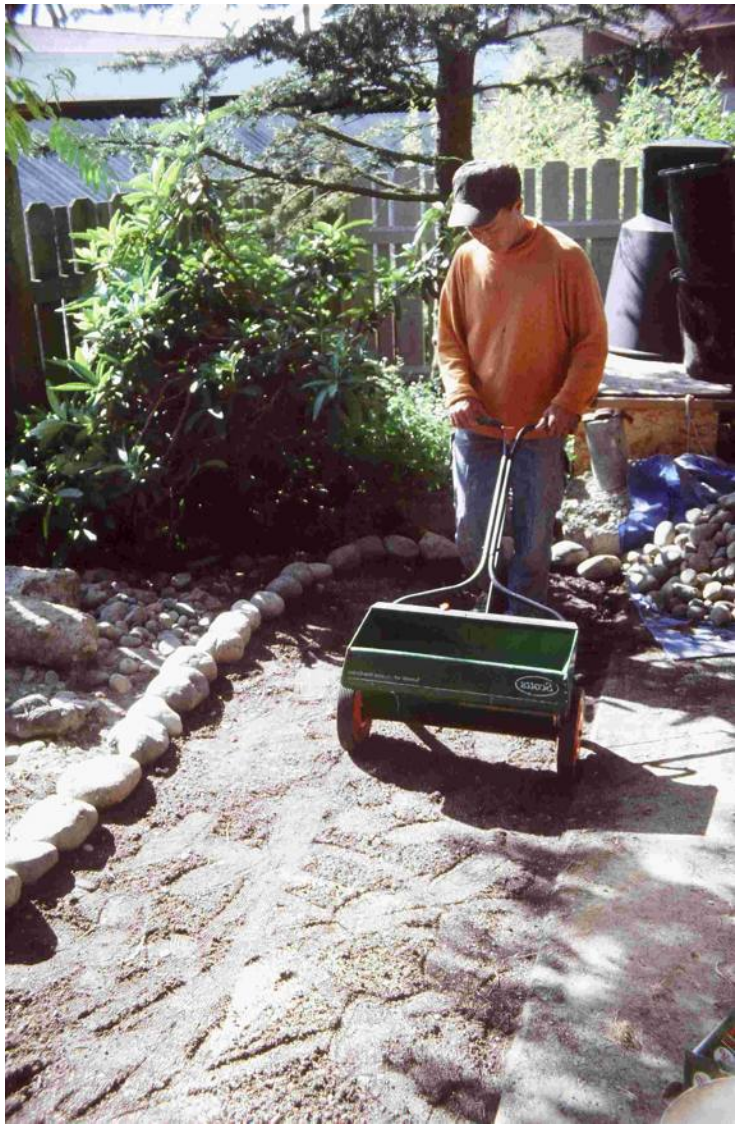
To establish a beautiful lawn, apply 3-6cm of finely textured compost to surface and…

Using Compost as Soil Amendment



…till in to a depth of 15-30cm.

Using Compost as Soil Amendment



Add seed ←

rake in →

and water →





Using Compost as Soil Amendment



Compost can also be used to help establish sod. Again, add 3-6cm of finely textured compost to the surface and till in to a depth of 15-30cm before laying the sod.

Using Compost as Soil Amendment





Compost can be used to help establish new plantings. Dig a hole, add compost to bottom and mix with the soil in the hole. Also mix compost into soil taken out of the hole. Place plant in hole and then cover with the compost/soil mix.

Using Compost as a Soil Amendment



Plants just love it!!!.....

Using Compost as an Ingredient in Potting Soils and Seed Starting Mixes



To use compost as an ingredient in potting soils or seed starting mixes, screen compost using a 1-3cm mesh.

For a seed starting mix use a 1-1.5cm mesh.

For a potting soil, use a 2-3cm mesh.

Using Compost in Potting Soil





For a nice and easy potting soil, use 1/3 compost to 2/3 garden soil.

Using Compost for Starting Seeds



For a seed starting mix, use ½ compost and ½ sand.

Compost Tea



Tea can be made from compost, manure, nettles, comfrey among others. Here is our site at Sonairte in County Meath

Using Compost to Make Compost Tea



Compost tea can be made by soaking compost in water for 2-3 days. Then irrigate plants with it. Compost tea suppresses plant diseases and provides plants with valuable micro nutrients.



Using Compost versus Peat

Quality or Characteristic	Peat Moss	Compost
Nutrients	Peat does not contain any essential plant nutrients.	Compost not only contains 1-2% Nitrogen, Phosphorus & Potassium, but also has an abundance of micronutrients essential for healthy plant growth and disease suppression.
pH- Acidity/Alkalinity	Peat is **acidic** which inhibits nutrient transfer from soil to plant roots.	Compost is **pH neutral** which improves nutrient availability within the soil.
Biology	Peat is dead or lifeless	Compost contains a vibrant variety of life that benefits soil with the microorganisms needed to make it healthy and productive
Carbon to Nitrogen Ratio	High in Carbon, peat draws Nitrogen from the soil when it breaks down, competing with plants for this essential nutrient	Low in Carbon, compost releases Nitrogen into the soil for plant uptake when it decays further.
Moisture Holding Capacity	High, peat can hold 6-8 times its weight in water	Medium, compost can hold 1-2 times its weight in water
Particle Size	Fine which can compact and limit both air and water flow within the soil.	Variable which can open up soil structure to improve aeration and drainage

Troubleshooting

To troubleshoot a composting issue, answer the following questions:

- What sort of system is being used?
- What types of materials were used to make the pile?
- How old is it?
- Is it wet or dry?
- What does it look like now?
- Have you poked around inside or turned it?
- Does it smell bad?
- Are there flies or rats?

Troubleshooting

Symptom	Cause	Solutions
Pile has foul odour	Not enough air Pile too wet Meat and fish added to pile	➢ Turn it, add course dry stalks, straw, hay, leaves or bush trimmings ➢ Limit food scraps to vegetative ones
Clumps of slimy grass, sharp ammonia smell	Too much fresh grass	➢ Leave cuttings on lawn or allow them to dry for a day or two before collecting them for composting. ➢ Mix in brown leaves, straw, hay, bush trimming, stems, stalks, or wood shavings. Remember the 50/50 rule of mixing green and brown materials.
Pile is dry throughout	Not enough water Too much woody material Pile is in sunny location Pile may be too small	➢ Turn it and moisten materials ➢ Cover pile ➢ Add fresh green materials ➢ Move bin to a more shady location ➢ Add materials or combine with another pile.
Pile is damp, but woody and not composting	Materials are too big Lack of green materials	➢ Chop or shred materials ➢ Turn and mix in a source of green materials such as grass cuttings or animal manure

Troubleshooting

Symptom	Cause	Solutions
A swarm of flies greets you when you open the lid	Pile is too wet Food scraps are placed on top	➢ Mix in dry materials or add some on top ➢ Bury food scraps within the pile ➢ Cover pile with wet newspaper or a plastic sheet
Rats live in the pile	High protein food waste in pile Food waste on top Warm and dry	➢ Stop adding animal products to bin ➢ Bury food scraps into pile ➢ Turn pile frequently to disturb nesting ➢ Place mesh under or around the base of the pile or bin
Pile does not heat up	Not enough material Too dry Not enough fresh green materials Particles too big Compacted or too dense- no air spaces in pile	➢ Make bigger batches ➢ Add moisture when pile is turned ➢ Add fresh green materials when turned ➢ Chop or shred materials ➢ Turn to introduce air and loosen up the pile
Pile has shrunk, but looks undecomposed	Outside of pile is dry, inside probably composted	➢ Check in pile for finished compost. ➢ If compost is not ready, turn pile, add water if necessary and allow it to finish ➢ If compost is ready, harvest compost and use undecomposed material to start a new batch.


THE
END
. . . or just the
beginning?