Putting the Garden to Bed

Get your garden ready for spring with a little extra effort in the fall. Cleaning up your garden and planting, protecting and prepping your soil will give you a head start next year.

Don't feel as though you have to do everything, though. If you've had a bad pest or disease problem, focus there. If you've been meaning to do something about your soil, take advantage of this season to get it done. And if you have a lot of tender new plants, focus on making sure they are protected.

Mulch

Mulch is any material that is applied to the surface of the soil. It differs from a soil amendment which is material that is dug into and mixed with the soil.

Types of mulch

- Straw
- Leaves
- Newspaper
- Grass clippings
- Compost
- Aged bark/wood chips
- Plastic mulches (this does not add anything to the soil)
- Black plastic (as a last resort) can kill and suppress weeds

Benefits:

- Discourages weeds
- Conserves soil moisture
- Helps stabilize soil temperatures and protects young plants from frost
- Decreases soil erosion by protecting the soil surface from the force of falling water droplets
- Bare soil tends to form a crust which impedes water penetration, and mulching can prevent this from happening
- Mulched soil is cultivated less frequently than bare soil, therefore soil structure is left intact
- Organic mulches decompose adding nutrients to the soil and limiting soil nutrient loss due to rain
- Fruits and vegetables that lie on top of soil will remain clean

When selecting mulch, think about availability, affordability, appearance and ease of maintenance. The following list will help you select appropriate mulches for your purposes.

Mulch—Interbay Method

As an over-winter method for building humus-rich soil, it would be difficult to improve on the “Interbay Mulch” (named after the community garden in Seattle where it was developed) for effectiveness. Interbay-mulched soil, according to lab tests, is “uniquely active.” Over a winter, an Interbay Mulch will give you a large volume of humus as well as a rich diversity of bacteria, fungi, protozoa, beneficial nematodes, microarthropods, beetles, millipedes and worms. Living soil is key to successful organic gardening. Grow lush healthy disease and weed free gardens after just one winter.

Interbay Mulch is basically various organic matter culled from the urban waste stream piled on top of your soil and covered with damp burlap. And it’s all free! We have found organic matter decomposes faster on top of the soil than it does if you till it in as long as it is covered and kept moist.

Why the burlap?

Covering organic matter with burlap fools nocturnal, light-avoiding organisms into working for you 24 hours a day. Burlap will diffuse and soak up rain preventing it from driving into the mulch; it also inhibits evaporation, keeping organic materials uniformly moist. Birds are unable to forage in the mulch so worms and other organisms flourish and multiply. Burlap covers the mulch but is also part of the habitat cultivating a rich variety of fungi and providing a home for beetles, spiders worms and the like. Burlap permeability allows needed oxygen to reach all parts of the mulch.

What do I use for mulch under the burlap?

First and foremost the debris from your garden. Chop up your corn, bean and squash plants. Tomato plants, etc. (Many of us don’t even worry about seeds because of ongoing top dressing mulches during the growing season. If you are concerned about seeds or diseases, put those plants in the hot composting holding cages) Think the same “brown” and “green” mix used for hot composting, approximately 50-50. The more variety in materials the better.

What are some examples of "Browns"?
Leaves are easily obtained in the fall. Dried cornstalks. Straw is a good brown; even better if it is rotted. You can also add rotted burlap, cotton dryer lint, shredded paper, and season with a few pine needles. Woody material should be limited to rotted material that you can smoosh between your fingers.

What about "greens"?
Practically anything that doesn't burn when you put a match to it. Garden debris, green corn stalks, fresh grass clippings, coffee grounds (leave a bucket at your favorite espresso cart), juice bar pulp, spent grain and hops, seaweed, grape pressings, apple pomace, tea, and so on. Any kind of organic manure is good.

Should I add compost?
Using compost as part of the mix is a great way to get the system jumpstarted. One wheelbarrowfull of rough compost per hundred square feet is sufficient to get things going. Using burlap that was used last year is also a good way to inoculate your mulch. The used sacks are full of dormant organisms just waiting to go to work.

How much material should I use?
Depending on your soil needs, the mulch will be 6 to 18 inches deep. Make sure all materials are damp before covering with burlap.

Do I just walk away and leave it for the winter after covering with burlap?
Check for moisture during the winter. If materials dry out decomposition comes to a halt. You can also feed your mulch during the winter like a worm bin. Adding materials once the mulch is active makes it work even better. You will have fun checking your mulch through the winter. The biology is fascinating. You will have given birth to billions of trillions of organisms. Some you can even see! When can I plant in the spring? If you start your mulch in October you should have rich humus to plant into by March. If you started with 12" of mulch you will end up with 2-3 inches of soil-energizing humus. Do I till it in or just plant into it? Gardeners do both successfully.

Local Burlap Sources *(call for availability)*

Dillano's Coffee Roasters
1607 45th St E
Sumner, WA 98390
(253) 826-1807

Green Mountain Coffee Roasters
3324 142nd Ave E #200
Sumner, WA 98390
(253) 447-9100

Also check with your local coffee shops

Sheet composting (aka Lasagna mulching)

A layered mulch system that builds soil and can be used to replace existing lawns or vegetation without the need to remove unwanted plant material.

1. Cover the ground with four to six overlapping layers of cardboard or newspaper (black ink on newsprint only) to keep out light and eliminate vegetation underneath. Wet thoroughly and cover with a one-inch thick layer of a nitrogen source such as manure.
2. Top the nitrogen layer with an inch of leaves, straw, bark or other carbon material.
3. Add an inch of nitrogen, an inch of carbon, another inch of nitrogen and a top layer of carbon. The final layer can also be covered with an overlapping layer of burlap coffee sacks to keep the materials in place. The burlap will decompose over time.
4. A bed is "finished" and ready for planting when the layers have decomposed enough that the original materials are no longer recognizable and it looks and smells like fresh earth.

Amending the Soil

Amendments can be slow acting and adding them now will make them available in the spring

- Best time to test your soil
- Lime to raise soil pH
- Organic fertilizers and minerals: kelp meal, green sand, rock phosphate, bone meal, blood meal
- Add Compost/Tagro (See Cascade Compost and Tagro handouts)
- Green Manures (cover crops)

Cover crops

Add organic matter and nutrients to your garden by sowing seeds of fava bean, vetch, buckwheat (for summer), rye and clover in the fall. Let them grow over the winter and then till them under a couple weeks before planting. Other benefits of cover crops include: Supply nitrogen, protect soil from erosion, reduce runoff, lower disease and pathogen infections, suppress weeds, break up compacted soil and they can attract beneficial insects.

Consider your space and timing when choosing cover crops.

Leaves

Once you've shredded your leaves, they can be used as an organic mulch in flower beds, vegetable gardens, under trees and shrubs, or in container gardens. Simply apply a two to three inch layer of shredded leaves to your beds, keeping the mulch from directly touching the stems and trunks of your plants. Helps soil retain moisture, stay cool, and limit weed seed germination. The leaves will add nutrients to the soil as they break down, and the worms and soil microorganisms will work on them as well, resulting in lighter, fluffier soil.

Leaf Mold

Leaf mold is a wonderful soil amendment that is made from nothing more than the fungal breakdown of fallen leaves with the occasional layer of garden soil or finished compost added. Pile or bag fall leaves and let sit for about a year and when it's finished you have the perfect amendment for vegetable and flower gardens, as well as a fantastic addition to potting soils.

Pests

- Destroy any diseased or pest-infested material.
- Remove dead plants from vegetable and annual gardens.
- Rake up and dispose of all fallen fruit and leaves. Disease-free leaves can be used as mulch. In borders, leaves from healthy plants can remain where they fall. Pine needles make excellent winter mulch for tender plants.
- Weeding now eliminates places for over wintering garden pests and cuts down on weeds next spring.
- A compost pile that reaches at least 140 degrees F for several days will kill disease causing organisms.

Odds and Ends

- Clean, disinfect, sharpen, oil, and store tools inside and up off the damp ground
- Empty outdoor containers and store upside down, bring in pots that can’t handle frost
- Drain hoses
- Mow lawn as late into the fall as it grows
- Scrap grass from mowers/trimmers to prevent corrosion
- Don’t leave leaves on the lawn, rake into garden bed or use lawnmower to chop them into mulch
- Remove gas from engines or add fuel stabilizer

Guide to Mulches

Compost	Use 1–3 inches in vegetable gardens, flower and shrub beds. Can be incorporated into vegetable and annual flower beds at the end of the season as a soil amendment to improve the soil. Can be a source of weeds and/or plant disease if compost pile hasn't had a sufficient heating period.
Bagged Steer Manure	1–2 inches of bagged steer manure can be used in much the same way as compost. It has been sterilized and should be free of problems. There are few nutrients in bagged steer manure, and it should not be relied on as a fertilizer. Expensive if large amounts are needed. Can be incorporated into vegetable and annual flower beds at the end of the growing season as a soil amendment.
Coarse Bark	Use 2–3 inches around trees and shrubs. Keep the bark back a few inches away from the base of the trunk to prevent rot or rodent damage. Decomposes slowly. May attract carpenter ants. Bark contains suberin, a waxy substance that repels water, consequently bark mulch may impede water penetration into the soil. Periodically check soil moisture content under the mulch.
Fine Bark (also called Mulching Bark)	2–3 inches of fine bark is easy to use in flower and shrub beds and will eventually break down and improve the soil. Must be regularly replaced.
Sawdust	Use 2–3 inches of sawdust in vegetable and small fruit gardens, flower beds and in paths. Use well-rotted sawdust and be prepared to add fertilizer with a high nitrogen content if plants become pale or yellow in color. Sawdust is inexpensive and readily available. May become compacted and impede water and oxygen movement into the soil. Do not use sawdust from plywood.
Wood Chips	Use 2–4 inches around trees and shrubs. Keep the wood chips back a few inches from the base of the trunk to prevent rot or rodent damage. Allows good penetration of water into the soil. Weathers to a gray color over time. Readily available.
Coffee Grounds	Easily compacted and can create a barrier to water and oxygen movement into the soil, therefore use only a half-inch layer and cover that with a thicker layer of coarse organic mulch such as wood chips or fine bark. Will readily decompose and add nitrogen and other nutrients to the soil. Better used as a soil amendment or as an addition to a compost pile rather than as a mulch.
Coconut Husk Fiber (Coir)	Available loose or as mats. Mats are particularly effective for erosion control. Does not pack down and allows good penetration of water and oxygen.
Shredded Leaves	Use 2–3 inches in flower, vegetable or shrub beds. Most leaves can be shredded with a lawn mower if a shredder isn't available. If not shredded fine enough, may mat together and form a barrier that blocks water and oxygen movement into the soil. Black walnut leaves are toxic to many plants and should not be used in the garden or compost pile. Leaf mold (partially decomposed leaves) is a particularly effective mulch.
Pine Needles	3–4 inches or more of pine needles can be used in shrub and flowerbeds. Shredded pine needles are easier to handle than the whole needles in flower beds and work well in paths. Whole pine needles are light and airy and can be used as winter mulches in rose and perennial beds. Needles take decades to decompose and because of this, they do not acidify the soil as was once thought. Readily available.
Grass Clippings	Use 2–3 inches around vegetables, berries and flowers. To prevent smelly, wet mats, spread the clippings out to dry for a day or two before application. Don't use grass clippings from lawns that have been treated with a weed killer. Readily available.

Straw, Hay	Use up to 6–8 inches in vegetable gardens, around strawberries and other small fruits. Straw can be a fire hazard, and both straw and hay can be a source of weed seeds in the garden. Chopping it up will make straw or hay more attractive and less likely to blow around in the wind. May lower soil nitrogen as it decomposes, therefore be prepared to add high-nitrogen fertilizer if plants become pale yellow in color. Inexpensive and readily available.
Pea Gravel	Use 1–2 inches around plants such as many of the rock garden perennials that are susceptible to crown and root rot. Can also be used to make garden paths.
Crushed Rock (White or Lava Rock)	Fairly expensive but does not need to be replaced very often. Won't blow away. Resists compaction. Often used over black plastic or weed fabric barriers. Most effective where a decorative look is preferred.
Layers of Newspaper, Cardboard Sheets	Sheets of cardboard or 6–7 layers of newspaper can be used to mulch vegetable beds or paths. Do not use glossy paper or color prints. Once dry, newspaper and cardboard are hard to moisten and will impede water penetration into the soil. If dry, they may blow about in the wind. Unattractive unless covered by another mulch such as bark.
Black Plastic	Controls weeds but blocks water and oxygen penetration to roots. Must be covered with another mulch such as bark. Inexpensive. Does not need to be replaced very often.
Fabric Weed Barriers	Can be used in new vegetable gardens, small fruit gardens, new perennial gardens and shrub beds. Though much more expensive than black plastic, they allow water, fertilizer and air to the plant roots. Easily degraded by ultraviolet rays in sunlight, they must be covered with a layer of another mulch such as bark or rock. If weeds germinate in the overlying mulch, their roots can penetrate the fabric and make weed removal difficult. Roots of landscape plants can colonize the fabric and be damaged if the fabric is subsequently removed.
Rubber	Mats made of ground rubber are available commercially. Rubber is highly flammable and difficult to extinguish once it is burning. Eventually decomposes and leaches metal and organic contaminants. Does not perform as well as other organic mulches at weed suppression.