

Sheet Mulching

What is it?

- Sheet mulching, lasagna gardening, and sheet composting are different names for the same process.
- Traditional composting is done by making a large pile and letting it “cook” over time.
- Sheet mulching is making compost in the place where you wish to make new garden beds.

Potential applications

- It is an excellent way to convert grassy areas to garden beds, to improve soil and soil structure, and to recycle organic materials.
- It is an easy way to fill framed, raised beds so that they are ready for planting next season.

Basic formula

- Traditional compost piles need 2 parts brown to 1 part green materials. Sheet mulching uses equal portions of each in alternate layers.
- Browns are carbon sources such as dry leaves, straw, paper, cardboard, sawdust, animal bedding mixed with manure, corn stalks, pine needles, wood chips, etc.
- Greens are nitrogen sources such as vegetable scraps, coffee grounds, grass clippings, fresh manure (cow, horse, or poultry), alfalfa pellets, cottonseed meal, soybean meal, and blood meal.

How does it work?

- The basic technique involves placing alternate layers of brown materials and green materials directly onto the soil.
- As with all compost, sheet composting needs carbon, nitrogen, oxygen, and water in proper proportions to break down the organic materials into a good growing medium.
- Sheet composting is a slow process. There is little or no heat reaction from the microorganisms to speed the process along. A sheet compost bed may take six months or longer to decompose sufficiently to allow for planting.
- The height of a bed may vary depending on when the bed will be planted. Generally speaking, the greater the volume of material, the longer it will take for decomposition.

When should I begin?

- Sheet composting is best started 5-6 months before you want to use the planting area.
- Fall is an excellent time to sheet compost as the material breaks down slowly over the winter and is ready for planting in the spring. But a bed may be started any time materials are available.

Step-by-step instructions

1. Remove persistent weeds such as blackberry, bindweed, and thistle. Sheet composting will not smother these weeds.
2. Begin by mowing or scalping grass or other vegetation down to the lowest possible level.
3. Add agricultural lime per soil test recommendations or 5 pounds per 100 square feet.
4. Add nitrogen rich fertilizer such as blood meal or feather meal at 1 pound per 100 square feet or plant-based fertilizer such as alfalfa meal at 5 pounds per 100 square feet.

5. Loosen soil with a spading fork to improve drainage.
6. Cover the ground with 6 or more overlapping layers of newspaper or one overlapping layer of cardboard. This layer of brown material keeps light out and smothers the grass and weeds underneath.
7. Wet the newspaper or cardboard thoroughly.
8. If using a framed raised bed, place it on-site before adding the first layer.
9. Cover your first layer with a one-inch layer of a green material such as fresh grass clippings, green manure, or vegetable scraps.
10. Top the green layer with an inch of brown materials, such as leaves, straw, and bark.
11. Add a one-inch layer of green material such as fresh green weeds (minus the seed heads), grass clippings, etc.
12. Cover with another one-inch layer of brown material.
13. Continue to add alternating layers of brown and green material until the final height is at least 18 inches.
14. Be sure to end with a brown layer which acts like a blanket.
15. The final layer may be covered with overlapping burlap coffee sacks to keep the pile neat. Burlap will decompose over time or may be removed when planting the bed.
16. If a pile becomes too wet, cover it with a sheet of black plastic loosely weighted down at the sides. This will help warm the pile and encourage faster decomposition. It also helps prevent nutrients from leaching.
17. A bed is “finished” and ready for planting when the layers have decomposed to the point that the original materials are no longer recognizable and it looks and smells like fresh earth.
18. If you can’t wait, top your newly formed bed with a 2-3 inch layer of compost or garden soil and plant directly into it.

Adding new materials over time

- After you build the initial bed, you may continue to add alternating layers of brown and green materials.
- Be sure to always end with a brown layer.
- When adding new materials to a planted bed, leave at least six inches between plants and fresh, decaying materials.

OSU Extension Service Resources

Visit your OSU Extension Service office at 200 Warner-Milne Road, Oregon City, for publications or get them online at <http://catalog.extension.oregonstate.edu>

Master Gardener™ Advice

- Call the Home Horticulture Helpline: 503-655-8631 (Clackamas County), 503-821-1150 (Washington County), 503-445-4608 (Multnomah County).
- For 10-Minute University™ handouts and class schedule, visit www.cmastergardeners.org
- Look for Master Gardeners at area Farmers’ Markets.

Oregon State University Extension Service offers educational programs, activities, and materials without discrimination based on age, color, disability, gender identity or expression, genetic information, marital status, national origin, race, religion, sex, sexual orientation, or veteran’s status. Oregon State University Extension Service is an Equal Opportunity Employer.