

## Sheet Mulch - Lasagna Composting

Sheet composting is an ancient technique that has many practical applications today. Also referred to as lasagna composting or sheet mulching, sheet composting is a cold composting method that has been used by people around the world for generations. It is an excellent way to convert grass to vegetable beds, create new or enlarge perennial borders, improve soil and soil structure, and recycle organic material at home. 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.

To build any good compost you need to plan ahead. Sheet composting is best started several 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. The basic technique involves placing alternate layers of carbon materials and nitrogen materials directly onto the soil. (Note: Layers should be fairly equal to allow for even decomposition. One inch is recommended although deeper layers can be used.)

### **There are several advantages to sheet composting**

- ❖ It is an easy and uncomplicated method of composting.
- ❖ It can be done a little at a time as materials are available.
- ❖ It can be done on a large or small scale.
- ❖ It can be used to improve soil or add to existing beds and borders.
- ❖ It is an easy way to expand a garden with a minimum amount of equipment, material and time.

1. Begin by mowing or scalping grass or other vegetation down to the lowest possible level to the length and width you would like the finished bed to become. Three feet wide is a good width as this allows the center of the bed to be reached from either side. This may also be done directly in a constructed raised bed.
2. Make sure there is good drainage by ‘popping” or loosening the soil underneath the bed with a spading fork.
3. Remove any pernicious or persistent weeds such as blackberry, bindweed, morning glory or quackgrass. Sheet composting may not smother these weeds.
4. Cover the ground with 4-6 overlapping layers of newspaper or cardboard (carbon material that smothers the grass and weeds underneath by preventing light from allowing photosynthesis of the plants.)
5. Wet the newspaper or cardboard thoroughly and cover with a one-inch layer of a nitrogen source such as manure.
6. Top the nitrogen with an inch of leaves, straw, bark or other carbon material.
7. Add an inch layer of nitrogen; kitchen scraps, green produce scraps, manures or fresh green weeds (minus the seed heads) or a combination of all.
8. Cover with another layer of carbon material; straw, shredded paper, leaves, dryer lint, etc.
9. Continue to add alternating layers of carbon and nitrogen until the final height is reached (18 inches to three feet.)
10. Continue to add alternating layers of carbon and nitrogen, as materials are available. As the material decomposes more layers may be added always ending with a carbon layer. This is the “blanket” that discourages flies from laying eggs on exposed nitrogen material, such as kitchen scraps. The height of a bed may vary depending on the amount of material and when the bed will be planted. Generally speaking the greater the volume of material the longer it will take for decomposition to take place. The final layer may be covered with overlapping burlap coffee sacks to keep the materials neat and in place. The burlap will gradually decompose over time but may be removed when planting the bed.
11. If a pile becomes too wet, cover it with a sheet of black plastic loosely weighted down at the sides. This will help to warm the pile and encourage faster decomposition. This will also help prevent nutrients leaching during heavy rains.

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 6-months or longer to decompose sufficiently to allow for planting. 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. Or you can get plants started by sifting a 2-3 inch layer of compost or garden soil on top of the newly formed bed and plant directly into the lasagna garden.

The following are commonly used materials for sheet mulch/lasagna gardening. Almost any garden debris may be used.

### Nitrogen sources

Used coffee grounds	Vegetable scraps
Composted manures	Fresh grass clippings
Alfalfa pellets	Cottonseed meal
Fresh weeds, no seeds	Soybean meal/blood meal

### Carbon Sources

Sawdust	Peat moss
Leaves	Newspaper/cardboard
Corn stalks	Straw
Pine needles	Wood Chips

Costs to build a raised bed sheet mulch/lasagna compost garden: \$35 for wood (untreated fir) and screws, and about \$15 for the cloche. Six mil plastic with clips for covering the PVC pipe will cost about \$20.



Photos courtesy of Anne Donahue

### Box materials:

- Two pieces 2"x12"x12' untreated fir
- One-piece 2"x12"x8' (cut in half)
- One-piece 4"x4"x8' (cut four 11 ½ inch lengths for corner braces)
- 40 - 2½ inch galvanized wood screws (ten per corner)

### Cloche materials

- Seven pieces of ten-foot ½" PVC pipe
- One piece of ten-foot roll galvanized plumbers metal stripping to attach PVC to sideboards every two feet
- 28 one-inch roofing nails

### Tools needed

- Hammer
- Drill, drill bit to pre-drill holes, Phillips drill bit for screws
- Tape measure (to evenly space PVC)
- Slide/level/square (to make sure the bed is level and square)

### Steps

- ❖ Have the lumber store cut wood for you. Screw together corner braces and 4 foot 2" x 12". Add on 12 - foot 2" x 12".
- ❖ Easy method: Lay newspaper on the grass where the bed is to go. Fill with leaves, coffee grounds, grass clippings and straw in layers. Top with 4-6 inches of garden soil and plant.
- ❖ More labor intensive method: Dig out sod under area to be covered by the bed. Cover the bare soil with wood chips or overlapping newspaper. Turn sod upside down to form the first layer in the bed. Cover with two sheets of newspaper, and layer with coffee grounds, leaves and other material. Add lime and organic fertilizer on top of this level. Top with 4 inches of garden soil or good compost and plant.



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## Master Gardener™ Program



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