

## Sheet-Mulch Your Lawn Safely and Organically

You can remove your lawn and replace it with California native plants without breaking your back digging and hauling the sod to the dump. There is a simpler method called sheet mulching (or sheet composting) that is safe and organic and restores the beneficial microorganisms in the soil. Sheet mulching smothers the grass and kills it by depriving it of oxygen and sunlight. The dead grass can then be composted in-situ by covering it with brown (carbon-rich) and green (nitrogen-rich) matter. In as little as 3 months the soil underneath will be nutrient-rich and teeming with earthworms and other healthy organisms.

### The four simple steps to sheet mulching:

- a) Cut your grass low and put the clippings back on the grass.
- b) Cover with cardboard or 5 sheets of newspaper.
- c) Throw 2-3" of mulch over the newspaper to weigh it down.
- d) Wet this area about once a week for 2-3 months if it is the dry season.

Although the technique described above is fully sufficient to convert your lawn to an organic composted area that is ready for planting in 3-6 months, continue reading here for a more detailed description of the sheet composting method if you want to do it with all the bells and whistles.

### Detailed Method:

1. If you have 5 gallon or larger-sized plants to put in the ground where the turf is replaced, plant these in the ground first before going on to the next step.

**Notes:** If you are sheet-mulching in the fall, winter or early spring, then you can plant at the same time. If you are sheet-mulching in the late spring or summer, then wait until late fall to put in new plants.

2. Mow your lawn as low as possible, and throw the grass clippings back on the grass.
3. The more organic matter you provide, the easier the composting process, and the healthier your soil will be, when the process is complete. Re-use the cut grass to quicken the decaying process since grass is a good source of nitrogen and potassium. If you have other plant clippings or leaf litter, spread those on top of the low-cut grass as well.

**Notes:** Avoid diseased leaves, and also avoid leaves that can mat together to form an impermeable layer. Thick leaves can be put in a box or barrel and run a weedwhacker through it to shred before spreading. Alternately put them aside for a few weeks in the direct sun and when they dry up they can be crunched up by walking on them with heavy boots. (A good project to get kids involved in the garden since you can also use these dried and crunched up leaves in your compost pile).

4. If you have a sidewalk or walkway next to the grass, cut out a 6” strip of grass all along the walkway. Keep these strips to raise the level during planting. Removing the strips creates a slight slope away from the walkway and this will ensure that the compost and mulch do not easily blow over.
5. Wet down the remaining grass. Moisture is essential to the composting process.
6. If you have sprinkler heads then mark them with flags since they will disappear when you are done with sheet composting. (It is usually useful to know where your sprinkler heads are, even if you won’t use them again, in case you want to convert them to a drip system).
7. **Optional:** Spread about 1” of chicken manure, taking care to ensure that the manure is at least 2 feet from the base of any new plants. The manure can burn your plant roots if applied directly, so keep the roots safe and the manure away. You will need about a 1/4 of a cubic yard (or 6.75 cubic feet) of manure to cover 100 sq feet to a 1" depth.

You can get free manure if you live near a farm or riding stables. Or you can always purchase sterilized poultry manure at your local garden supply store.

**Notes:** You can substitute the chicken manure for a different type of manure or material such as alfalfa, also high in nitrogen. Note that in addition to nitrogen, manure also provides phosphorous, potassium, and other nutrients. Manure also improves the soil structure and it has water-holding capacity. But manure is high in salt content and raises the pH of the soil making it more acidic, so do not over-apply. Poultry manure is highest in nitrogen, releases 90% of its nitrogen in the first year, and contains the fewest weed seeds, which is why we recommend it. If you have access to fresh chicken manure then you must compost it first or let it age so you don’t burn your young plants with the excess amount of nitrogen contained in fresh poultry manure.

If you are planting right away, then avoid the manure since this will burn the roots of new plants, only use this if you are going to allow the lawn to de-compose for at least 2-3 months before planting.

8. Spread about 1” of good compost. You will need 15 lbs for 100 sq feet.
9. Spread 5 layers of regular newspaper to cover the entire grass area that you want removed, overlapping the edges somewhat. Or use one layer of cardboard. Go right to the edge of walkways.

**Notes:** If you are using cardboard remove all packaging tape, staples and other material, leaving just the brown material.

**Notes:** Use ordinary black and white newspaper pages and do not use glossy inserts and magazines. Newspaper ink is considered safe, being composed primarily of carbon black and mineral oil. The EPA banned lead-based ink ingredients in 1985.

10. Wet the newspaper to keep it down while you work with the remaining material if it's a windy day, or throw some compost over it to keep it down as you work your way around the area.
11. **Optional:** Throw some oyster shell powder over the manure. Sometimes called oyster shell lime, you can purchase this from an organic gardening store. You will need 5 lbs for 100 sq. feet of lawn.

**Notes:** This is a by-product of the seafood industry and contains about 35% calcium as well as other important micro-nutrients. It raises the pH level if you have acidic soil. Oyster shell lime has been shown to benefit the growth of nitrogen-fixing good bacteria and suppress the growth of soil nutrient-depleting bacteria.

12. You are now ready to plant the 1 gallon and smaller plants by digging holes right through the compost, newspaper, and grass.
13. Once the plants are in the soil, pile 3-4" of mulch or wood chips over the entire area.

**Notes:** You can get free wood chips by calling a local tree company and asking them for some non-diseased wood chips. They are usually only too happy to unload on your driveway rather than drive it to the dump for disposal. Use a trustworthy arborist since you do not want wood chips from a diseased tree. To play it even safer, you can specify, "no oak chips please", especially since you do not want sudden-oak death (*Phytophthora ramorum*) in your garden. Pine or redwood chips should work well in general.

If you prefer a nicer-look and also want to save some money, then use wood chips to a depth of 2" and finish off the final 1" with store-bought, more expensive mulch.

**Notes:** If you have heavy clay soil only use 3-4" of mulch since very deep mulching will keep the soil too wet (during a rainy winter) and this is not a very good condition for roots which can then rot from lack of sufficient air flow

14. If you are sheet-mulching in the dry season then sprinkle the sheet-mulched area once a week with a hose or a sprinkler system during the late evening so you maximize the soaking down through the cardboard or newspaper. If it is raining occasionally then there should be no need for any extra water.

## Removing Bermuda Grass (*Cynodon dactylon*)

Bermuda grass is invasive and difficult to eradicate, but it can be done with persistence and education. You cannot use the sheet-mulching technique if you have Bermuda grass in your lawn area. You will have to dig it out, year after year, dry it out and shade it out with tall trees and bushes. You can use a summer solarization method with a plastic sheet (this also kills all other organisms in your lawn area).

A more detailed description is available at the **UC Davis Integrated Pest Management (IPM) website**. <http://ipm.ucanr.edu/PMG/PESTNOTES/pn7453.html>