

NODIG GARDENING

Create a Successful No Dig Garden

Metric Measurements

Based Largely on Toby Hemenway's Recommendations in GAIA's Garden

There are many variations and techniques of using this method. This is just one suggested approach based on our experience and research and Toby's recommendations.

Ideally, this new garden bed should be prepared in the autumn and left to decompose over the winter. If you use this technique in the spring or summer and plant immediately, it works better if you have more carbon layers and more compost/soil mix and less nitrogen layers (see # 11 below). If you plant soon after making the new bed, or the material hasn't decomposed much, make furrows or pockets in the top layer of mulch and fill them with compost and soil mix and plant directly into this. This will enable the seeds or plants to grow while the sheet mulch is decomposing below it. It is generally easier to grow established seedlings in a new no-dig garden rather than direct sowing of seeds. Root crops like carrots and beet root don't do well in new beds.

If you do plant immediately, don't expect high yields the first season because the material hasn't broken down enough to provide much nutrient for the new plants or seeds. Organic substances decompose when micro-organisms consume this material. It is only when these micro-organisms die that plant nutrients are released back into the soil in a form which the plants can use.

Building high quality, healthy soil is probably the most important thing we can do for our garden and is essential for growing healthy plants which produce vegetables with high nutritional value. But it does take time so practice patience and slowing down to the speed of nature. Don't be afraid to experiment with different materials. All organic material breaks down and produces soil. Your new garden needs air, water, nitrogen and carbon. Try the following steps:

1. Mark out the area for the garden with string or boards which is preferably level and running east to west for best sun access and allows the use of trellises on the south edge for vertical gardening which won't shade the garden. Put the garden as close to the kitchen as possible. Make sure the area gets 6-8 hours of sun. We suggest you start small at first- perhaps even one square meter. Don't make it any wider than you can reach half way across from the sides. Some prefer beds no more than 75cm wide for ease of strattling or stepping across. Garden paths should be ~30cm wide for walking or ~100 cm wide if you want to use wheelbarrows.
2. If the new garden area is heavily compacted soil (old parking area, etc) push a spading fork into the ground and rock it back and forth and do this over the entire area before laying down the new bed to encourage root penetration and drainage. It is also important to try to remove invasive plant species because they can travel laterally, emerge from under the sides of the bed and then reinvade your bed.

3. Some prefer to put in edging material like boards which will contain the soil when it is built up. If so, we suggest using untreated lumber, perhaps stacking two 2x6's on edge, and only use painted wood if lead paint was not used. Use short sections of used pipe, rebar or stout wooden stakes on the outside to hold them up.
4. Gather all the bedding materials together for the layering process before you start if possible.
5. It is very important to wet down the soil thoroughly before building the new bed, if it is dry, to prevent the ground from sucking moisture out of the bed of new materials.
6. Cut down any grass or non invasive weeds and lay them on the ground or stomp them down.
7. Add soil amendments if desired to help with plant growth. See section on soil amendments at end.
8. If no grass or weeds are on soil, put down a thin green layer of fresh grass clippings, manure or vegetable scraps on the existing soil surface. This will help to rot any turf underneath. Fresh manure works best but aged manure should be used if you intend to plant in the garden soon. Water grass or manure if dry.
9. Add worms if you have any. They will do much of the work to break down the organic material.
10. Cover the garden area with thick layers of wet newspaper (not shiny or colored) or preferably use 2-3 layers of wet cardboard, with plastic and staples removed, to smother any weeds. Overlap the paper or cardboard so there are no gaps for weeds to grow through. Water both sides of the cardboard just before laying it down, so it will decompose quickly or you can leave the cardboard out in rain before hand or a 3-5 minute dunk into a big plastic trash bucket of water works best to get water inside the cardboard. Cutting the cardboard into pieces ~ 60 cm squares is a good size for dunking.
11. Alternate thin layers of green (nitrogen rich) and thicker layers of brown (carbon rich) and water each layer. The green layers should be grass clippings which haven't gone to seed (preferably cut in the previous 24 hours to avoid getting slimy) and are not sprayed, or fresh weeds preferably without seeds, manure, food scraps or seaweed. The brown layers are shredded newspaper, junk mail (not shiny or plastic), dry leaves, dry grass, unsprayed straw or spoiled hay. Strive for maximum diversity of materials. The total depth of these layers should be 30-60 cm to build soil fertility. It will settle down to one quarter of the depth as the material breaks down. Try to create a plateau, not a mound, which could shed rainwater
12. Add 5-10 cm of compost, soil, or compost and soil mix. This is the layer you will plant in now or later.
13. Cover the area with at least a 5-10 cm layer of loose straw which shouldn't contain seeds. This allows oxygen into the soil, prevents compaction and keeps under layers shaded and moist. Make sure the straw hasn't been sprayed with pesticides. Water the straw lightly. Avoid using hay which contains seeds and packs down and can become anaerobic and acidic. If grass does grow from hay or straw, it can be easily pulled out in the spring or chopped into the soil. Leaves can also be used as a top layer. If you have high winds in your area, you may not want to use a final layer of straw or leaves or you can cover it all with netting.

14. As this new soil structure is immature, the bed will need regular watering during dry periods.
15. Avoid stepping onto your new garden beds whenever possible because this compacts the soil and makes it more difficult for roots and oxygen to penetrate. Provide paths, boards or stepping stones to walk on.
16. Drip irrigation and a water timer can water the bed effectively if you don't have time to water as needed.
17. After each season, it helps to add new layers of organic material to provide fresh nutrients to the soil.

Soil amendments to add

Nitrogen

In addition to, or instead of manure, which provides nitrogen, one can add blood meal.

Phosphorous

Gardens are often deficient in phosphorous which can be helped by adding rock phosphate dust or bone meal.

Minerals

Add some green sand or rock dust or loose clay to the garden to add various trace minerals.

Soil alkalinity/acidity

Most vegetables function optimally in a pH range of 6.5-7, slightly acidic. It is best to periodically test one's soil. Inexpensive testing kits are available at local nurseries. If the soil is too acidic, add lime lightly. If it is too alkaline, add sulphate of ammonia.

Use of Plastic

Do not use plastic sheeting or weed mat under the mulch because it will prevent plant roots from penetrating it and will not allow nutrients or worms to move freely in the soil. We also discourage the use of plastic on top of the mulch because it sheds rainwater and off-gases toxins when it heats up.

Compost

Most gardeners come to realize the importance and value of adding high quality compost to the surface of their gardens each year mixed into the top layers of soil before planting. Therefore, we recommend learning how to create a separate compost pile on your property which will enhance your soil fertility.