



## Time to Prepare Garden Soil is Now

Soil temperatures are slowly warming and it is now time to get your garden sites started or finish getting them ready for planting season. Productive vegetable gardens can come in all shapes, sizes, and various structures, as well. Container gardening is a very valid approach, but we are not going to address that aspect of vegetable production in this article. Instead, we will focus on working with in-ground garden areas.

Vegetable gardening is a great way to get the family outside, give them physical activity, learn about biological principles, AND reap the rewards of your work in tasty, nutritious vegetables. You don't need to have a large garden space to have good production. In fact, it is best to start a new garden on the smaller side and consider expanding it in the future, rather than starting too large and having more space than you and your family can effectively manage.

Starting a new garden begins with site selection. Look up to make sure your spot is going to get as much sunlight as possible, especially in the morning and into the afternoon. Look down to think about the soil, is there variability in your area that may make one spot better than another? Also, it is a good idea to not put gardens into the lowest terrain around, as those tend to be frost pockets that can negatively affect plants in both spring and fall. Look around to make yourself think about where the water for your garden will be available, from where wildlife may cause problems, or whatever other issues may be present at your site.

The next step is soil preparation, and all gardens need to have this done every fall or spring. On a new site, you need to get rid of the weeds/lawn that are growing there. You can do this by covering them with plastic that is sealed with soil on the edges. Clear plastic works great in sunny areas and takes less time than black plastic, which works better in shadier areas. You can use cardboard, newspaper, or other shading materials. This method probably works best if you are thinking of planting mostly transplants, as you can leave the material on the soil and simply cut holes through the material when you plant.

You can also use tillage and then sort through the area and pull out any perennial plant parts, such as turf roots, quackgrass rhizomes, and dandelion crowns. Another valid option is to use a non-selective herbicide, such as glyphosate containing products. You need to let the area sit without other activity at least a week, preferably 10 days or more, after spraying such a product to let it work fully.

One step to consider is conducting a soil test. Gather 6-12 cores of soil to about 6 inches deep from the area and mix them up in a bucket. Send about two cups of soil in a plastic bag to an accredited soil lab for analysis. Normally, you could bring the samples to the Extension office to do this process, but 2020 isn't normal, so you should plan on sending them to the lab yourself. Find the procedures and submission form at <https://uwlab.soils.wisc.edu/soil-samples/lawn-garden/>. However, right now, the UW lab is not processing soil samples. The closest accredited soils lab to Marinette County that is processing samples is the AgSource lab in Bonduel. Their sample submission forms and processes can be found at: <https://laboratories.agsource.com/agronomy/soil/>. If you do conduct a soil sample, the results you get will help you understand your soil, but you may still want a little help figuring out precisely what it means. Feel free to e-mail your results to [scott.reuss@wisc.edu](mailto:scott.reuss@wisc.edu) or call Scott Reuss, Horticulture Agent, at 715-732-7510 to have him work through the meaning of your results with you.

One step that nearly all vegetable gardens greatly benefit from is adding organic matter to the soil. Organic matter provides nutrient and water holding capacity, as well as being the primary source of most of the 14 nutrients plant roots need to take up from the soil. This does require some work, but is well worth it in both the short and long term. By work, I mean that the organic matter materials should be worked into the soil, not just spread on top (although that does slowly work, so can be done in no-till desired situations). And, we need to add a lot of material, as adding one percent of stable, long-term organic matter means adding about 1,000 lbs of dry plant material to each 400 sq. ft of garden space. Hint, don't try to do this all at once, but a consistent approach is highly beneficial!

What to use? Dry leaves from your yard area are great, just make sure not to use any black walnut leaves. Straw or old hay are also good options. Lawn clippings can work, just make sure you didn't use any herbicides on your lawn prior. It is not a good idea to add wood products, however, as that adds too much carbon all at once and will create nutrient availability problems for your plants. So, don't add bark chips, wood chips, or sawdust unless they have been composted first, or in very small amounts. If you want more detailed information about organic matter's benefits to the soil and some comparison of the different types of possible additions, you may want to read the Extension publication on that topic, found at <https://cdn.shopify.com/s/files/1/0145/8808/4272/files/A2305.pdf>

Compost is also a great addition, as it is decomposed plant materials. In other words, the nutrients are somewhat concentrated, but there is less carbon to add to the soil organic matter content. If making raised beds, mixing about one part compost with one part native soil at your site and digging it into the soil underneath as you add it is the optimum way to create a highly productive raised bed.

Depending on your soil needs, now is also the time add lime to increase the pH of your soil or to add additional phosphorus or potassium containing fertilizers. It is better to add nitrogen containing fertilizers later in the growing season, as that is a soil water mobile nutrient and can wash through the soil. This causes two problems, one being that you don't get any positives from your inputs and the other being that the nitrate gets into groundwater.

This has been a relatively quick review of the key steps that we can do now to get our gardens prepped for productivity the rest of the growing season. Contact Scott Reuss, UW-Madison Division of Extension Agriculture/Horticulture Agent, with any questions you have about these topics, or any other crop or garden related topics. He can be reached by leaving a voice mail at 715-732-7510 or through e-mail at [scott.reuss@wisc.edu](mailto:scott.reuss@wisc.edu) If you need help identifying weeds or disease/insect pests, you are welcome to e-mail him photos of the issue to assist in diagnosis.