



Soil Depth

It can boggle the mind a little bit to recognize that all that stands between a world without food is a thin layer of topsoil that we grow crops in. That being said, it is possible to grow a pretty wide range of things to eat in a pretty shallow layer of soil. In fact, we don't even have to have true soil, as we can grow in containers in soilless media, if we need/want to.

Soil, at its most basic, is there to provide physical support to the plants, provide a medium for contact between plant parts (seeds, roots, etc.) and water and nutrients. Ideally, you want a soil that has sufficient depth to support the growth of a plant without stress or restriction/limitation. If the plant roots become crowded, the soil won't be able to support the growth of the plant, meaning the productivity will be affected.

If you are thinking about growing a garden, the fact is that you don't really need a really thick layer of soil to grow most plants. Having a deeper soil profile is nice, as it is easy to work with and supports plants of all sizes. But realistically, most of the roots of plants are in the top 6in/15cm of soil. Roots can and will go much deeper than that, but if you supply all of the water and nutrients, a plant will get by with less. If you grow bigger plants, or plants that need a bit more depth to support their production (e.g., potatoes and carrots produce their tubers and roots underground), then deeper is obviously better.

If you work to build up your soil, through the addition of amendments, such as compost or composted manure, you can improve the soil at a greater depth. It is important to work the amendments as deeply as possible. Alternatively, you can also grow plants that naturally send root widely and deeply, which will improve things for you over time.

If you have poor quality soil and you can't really amend it, you can easily overcome that by creating a raised bed to increase the soil profile depth artificially. You can use wooden forms and fill it in with topsoil and other amendments. If you build raised beds, keep in mind that you need to shift your growing mindset a bit to remember that you are able to grow more efficiently and more compactly than you would have done in a larger, traditional garden space. Other things to remember are that raised beds tend to dry out more quickly than in-ground gardens, and they won't reliably support perennial plants, as their risk of freezing is much higher.

If you have an in-ground garden and want to increase the functional soil profile depth, simply scrape the soil into raised hills or miniature beds for the plants to grow in. You can do this for one plant, or many plants. You can do this before you plant, or you can do it after the plants have emerged. Note, post-emergence hilling is really only for things like potatoes, but it can be done.

