



03 Percolation Test

In nearly all planting situations, soil should allow water to pass by the roots of the plant as though it's passing through coffee grounds. The water should be available long enough to be used by the roots of the plants but not so long to suffocate them. Plants have varying moisture preferences, meaning some plant species may be able to withstand standing in water or dry soil conditions better than other species. A percolation test examines how quickly water drains. How quickly the water drains is based on the soil's physical structure (See Texture Test). Basically, a soil composed of mostly sand will drain rather quickly, while a soil composed of mostly clay will drain the slowest. Soil that drains too slow or too fast can be amended by adding organic compost into the top foot of the soil layer. Adding organic matter to the soil improves the soil's ability to hold air, water, and nutrients, and to drain well.

What You'll Need:



Step 1:

Before digging, understand where your utilities are.

Step 2:

Dig a hole in the garden one to two feet wide by one to two feet deep.

Step 3:

Fill the hole with water and let it drain (This step is to saturate the soil). This may take a short period to one day.

Step 4:

After the water drains the first time, refill the hole with water, and note how long it takes for the hole to empty.



Understanding Your Results:

- Ideally well-draining garden soil should drop 1-2 inches per hour.
- Drainage rates that are slower than the ideal reveal that the soil is too heavy with clay (or that other conditions might be a cause, like a layer of bedrock beneath).
- If your soil drains much quicker than the ideal rate (1-2 inches in 15 minutes or less, as opposed to an hour), it's likely that your soil's so porous because it contains too much sand.
- Again, both drainage problems – too slow or too fast – can be corrected by incorporating 2-4 inches of organic compost into the top 1 foot of soil.
- Adding sand may improve drainage in heavy, clay soils. However, more lasting and beneficial effects will be achieved by adding organic matter.

