

SOIL

BEGINNERS GUIDE TO GARDENING



KEY TERMS

Soil

Organic matter, minerals, gases, liquids, and organisms that support life are all found in soil.

Humus or Organic

Soil humus is comprised of the natural matter or humus that falls on the dirt. A layer of soil has formed as a result of the organic material's breakdown.

Topsoil

Topsoil is the earth's uppermost layer, usually the first two to eight inches, as its name suggests. It forms over many years as rocks break down and mix with leaves, bugs, and dead animals. The soil will appear darker the more organic matter it contains.

Ericaceous

Ericaceous compost is a type of compost with a higher acidity that gets its name from the "Ericaceae" family of plants that like to grow there.

Mud

A mixture of water and soil, loam, silt, or clay. Most of the time, it forms after rain or near water sources.

Compost

A mixture of ingredients used as plant fertiliser and to improve soil's physical, chemical, and biological properties.

Subsoil

Subsoil is the layer below the topsoil that is typically rockier and sandier and does not typically contain as much organic matter. Having said that, the layer of topsoil actually provides your plants with the appropriate amount of water and nutrients.

Organic matter

Used for both the soil and many manures, composts and other organic materials added to the soil to increase the organic matter content.



SOIL TYPES

Sand

These soils, also known as light soils, drain quickly after rain or watering and are simple to cultivate and work with. In the spring, they warm up fast. But they dry out quickly and lack plant nutrients, which rain quickly washes away. The acidity of sandy soils is frequently high.

Silt

Silt soils are fertile, fairly well-drained, and retain more moisture than sandy soils, but they are also easy to compact. They hold more water and contain more nutrients than sandy soils. The silt can be transformed into more stable crumbs by binding it with organic matter.

Clay

Over 25% of clay soils contain clay. They drain slowly and take longer to warm up in the spring than sandy soils do. This type of soil frequently puts the landscaper through their paces, but when managed correctly they can be extremely rewarding to work with. Clay soils are fertile and nutrient-rich if the organic matter can break down their cloddiness.

Loams

Loams are composed of a mixture of clay, sand, and silt, avoiding the extremes of sandy or clay soils. They are easy to work with, have good drainage, and are fertile. These soils are a gardener's best friend because they contain the "perfect" balance of all soil particle types. However, despite their excellent quality, if you dig or cultivate these soils annually, it is essential to add organic matter on a regular basis.

Chalky or lime-rich

These soils can be light or heavy, are mostly made of calcium carbonate and are very alkaline. Consequently, they are unable to support ericaceous plants, which thrive in acidic conditions. Many chalky soils are shallow, free-draining, and low in fertility, despite the fact that there are variations. However, nutrient levels and water-holding capacity may be higher in areas with clay.





TESTING SOIL TYPES

1. Take a small amount of soil and roll it between your fingers

If it feels gritty, it may be sandy. If it feels sticky, it may be clay. If it feels smooth and crumbly, it may be loam.

2. Check the soils colour

Dark brown or black soil is usually high in organic matter. Lighter soil colour indicates a lower organic matter content.

3. Test the soil's drainage

Dig a hole 30cm x 30cm. Fill the hole with water and let it drain completely. Fill the hole again and measure the depth of the water. Measure the depth of the water every two to three hours. The water level of well-draining soil will drop at least an inch each hour

4. Dig a hole 6 inches deep and fill with water

If the water drains quickly, the soil may be sandy. If the water drains slowly, the soil may be clay. If the water drains moderately, the soil may be loam.

5. Check for organic matter content

A high organic matter content can improve soil structure, nutrient retention, and water-holding capacity.

6. Observe plant growth

Different plants grow better in different soil types. If certain plants are thriving in your garden, it may indicate the type of soil you have.

7. Look for the presence of rocks and gravel

Sandy soil may contain more rocks and gravel than clay or loam soils.

8. Check for the presence of earthworms

Earthworms can help improve soil structure and nutrient cycling.

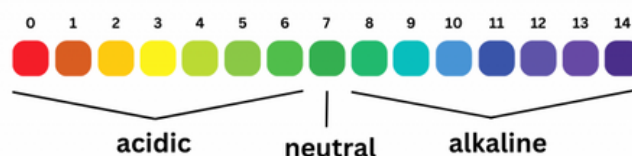


SOIL pH

Before designing and planting your garden, you will need to know the pH of the soil because different plants thrive in different soils. The pH is a number that shows how acidic or alkaline it is. At 7.0, the pH is considered neutral. An acid soil has a pH below 7.0, whereas an alkaline soil has a pH above 7.0.

Chemistry plays a role in testing for the pH of soil; fortunately, it's easy to understand. The pH scale is used to determine the soil's acidity and alkalinity. The "potential of hydrogen" is referred to as the "pH" value. On the full scale, which ranges from 1 to 14, the majority of garden soils fall within the range of 3.5 to 8.5.

The pH Scale



TESTING SOIL pH

1. Dig a small hole in the soil about 4 inches deep using a trowel or a shovel.
2. Take a small amount of soil from the bottom of the hole and put it into a clean container.
3. Repeat steps 3 and 4 in several different locations within the area you want to test.
4. Mix the soil samples in the container.
5. Remove any stones, twigs, or other debris from the soil.
6. Take a small amount of the mixed soil sample and put it into a soil test kit tube.
7. Add the barium sulfate powder to the tube according to the instructions.
8. Add distilled water to the tube, filling it to the mark indicated on the tube.
9. Shake the tube vigorously for 30 seconds.
10. Allow the tube to sit for 5-10 minutes until the soil settles.
11. Observe the color of the soil in the tube.
12. Compare the color to the color chart provided in the soil test kit instructions.
13. Record the pH level of the soil and repeat steps 8-14 for each soil sample taken from different locations in the garden.

Testing should be possible year round, however if lime, compost or natural matter has been added in the last 90 days, the outcomes may be misleading.

