

## The importance of pH.

pH is a measurement of the *power of hydrogen* (hence “pH”) and this dictates the acidity or alkalinity of the soil. It is measured on a scale from 1 (extremely acid) to 14 (extremely alkaline) with 7 being neutral. Both extremes are damaging to plants, which generally prefer values between 6 and 7. Soil pH affects nutrient availability; microbial activity, biological processes and impacts on decomposition rates of organic matter. Incorrect pH can conspire to restrict root growth and limit access to water and nutrients.

Acid soils with a pH of less than 6 commonly have deficiencies in:

- Calcium Magnesium Phosphorus Potassium Molybdenum

In Alkaline soils with a pH of more than 7 the following nutrients may be unavailable:

- Iron Manganese Zinc Copper Boron

If you are concerned about productivity in your garden; how your plants are growing or not growing; or any other aspect of your plants or soil that just don't seem quite right, check your soil pH before taking any other steps. If a pH test indicates your soil is either too acid or too alkaline there are remedial steps you can take to help rectify the problem.

It is much easier to amend a garden plot prior to planting. However, if you need to amend a plot that is already planted ensure that the mineral you are using does not touch your plants and mix into the top few cm of your soil. Give the garden a good hand water after applying your amendment.

## Decreasing the Soil pH

Amount of **Sulfur** per 1 square metre needed to lower the soil pH to the recommended level

<i>Present pH</i>	<i>Desired pH</i>		
	<b>6.5</b>	<b>6.0</b>	<b>5.5</b>
8.0	136g	181.5g	227 g
7.5	90 g	136g	181.5g
7.0	45g	90 g	136g
6.5		45g	90 g
6.0			45g

## Increasing the soil pH

It is easier to change pH on a sandy soil than on a clay soil.

**pH increases (over the upper 10 cm of soil) due to the addition of 1k per 10 square metre** in different types of soil:

- *Sandy soils 85g to 1 sqm is estimated to increase pH by 0.5 - 0.7*
- *Loam 1k to 10 sqm is estimated to increase pH by 0.3 - 0.5*
- *Clay soils 1k to 10 sqm is estimated to increase pH by 0.2 - 0.3*

## Compost pH

It's important to note that the pH levels in a compost bin will vary throughout the decomposition process. The finished compost however will usually be pH neutral or slightly alkaline, composting bacteria grow at their fastest rate in these neutral conditions

Compost can be acidic under two situations, the first during the initial stages of decomposition where organic acids are produced at a higher rate and the second where oxygen is restricted.

## References

---

<https://greenharvest.com.au/GreenGardenNotes/UnderstandingSoilpH.html>

<https://dpiwwe.tas.gov.au/agriculture/land-management-and-soils/soil-management/soil-ph-liming>

<https://hgic.clemson.edu/factsheet/changing-the-ph-of-your-soil/>