



TECHNICAL SHEET

Guide to pH

general description of pH

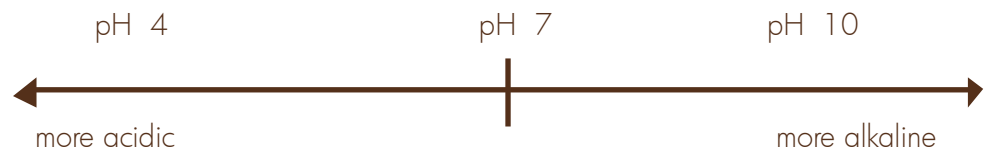
pH is the measurement of the acidity or alkalinity of the soil.

In chemical terms, pH is the concentration of hydrogen (+) ions relative to the concentration of hydroxyl (-) ions. The higher the concentration, the lower the pH.

It is important but is only one of several indicators that we use in identifying the desirable properties we are looking for in a garden soil. One of the reasons pH testing is so wide spread amongst gardeners is because it is so quick and easy to do.

how pH is measured

pH is measured on a logarithmic scale from 0 to 14, with a reading of 7.0 neutral. Therefore a reading of less than 7 is acidic and a reading of more than 7 is alkaline.



pH testing

There are a number of tests available, and the degree of accuracy obtained will depend upon the testing method used. Often, the cheaper testing method used will produce a less accurate result. For example, the coloured strips are only a general indicator, and some probe meters have been found to be inaccurate. Different test methods can result in pH reading differing by up to 1.5 pH units.

With regards to pH test kits, our extensive experience over time has shown us that they can be inaccurate in the testing of soils that contain large particles including organic matter or compost. This is because the pH test kit will read the pH of the selected ingredient rather than give an overall result. We also find that after a period of 3 - 4 months soil pH tends to drop due to the settling or slowing down of the micro organism activity.

Soilco uses the method set out in the Australian Standard AS3743-1996 for Potting Mixes and AS4544-1997 for Composts, Soil Conditioners and Mulches. This is called the 1:1.5 Volume Extract Method. It is the main method used in Australia. It is accurate and relatively simple, but it does give readings different to those obtained under the saturated paste and calcium chloride methods.

why pH is important

pH will affect the availability of plant nutrients. Different plants will have different optimum pH ranges. For most plants the maximum availability on nutrients occurs when the pH is in the range of 6 - 7.5. However plant nutrients can be still available in the pH range of 5-8 due to the buffering effects of organic matter.





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If the pH is very high or very low (< 5 or > 9), the effects can be:

- Damage to plant roots
- Will affect the availability of nutrients
- Will reduce the amount of nutrients the medium can retain
- May cause toxicity
- Will affect the number and type of micro-organisms present in the soil

organic matter and pH

The amount of organic matter in the growing media will alter the pH requirements of any particular plant. Nutrients in landscape mixes with a high organic content have been proven to become available to plants - even at supposedly unfavourable pH levels.

A high level of organic matter also acts as a buffer to pH variations. This is a benefit in growing media, because it shields plants from harmful, rapid pH changes due to (often accidentally) introduced materials such as detergents, contaminants or fertilisers.

meeting the standard

Australian Standard 4419 - (Soils for Landscaping & Garden Use) provides strict guidelines to ensure certified soils meet minimum requirements to ensure optimum plant growth.

Soilco is regularly audited to assure the guidelines for production are accurately followed. The quality must be proven periodically via laboratory testing by an accredited, certified laboratory.

What all this means for the consumer is that Soilco is committed to providing organic soils and composts which come with a guarantee of high quality, performance and consistency. The consumer can order certified products with confidence that they will be of a consistent high standard. So when looking to buy garden mixes or compost soil improvers, ask for products certified to the Australian Standard.

Soilco has available additional, more detailed information on soil mixes including specific testing carried out on its behalf to Sydney Environmental and Soil Laboratory. This may be supplied on request.

For further information on Soilco products and services contact:

additional Information

Soilco Pty Ltd

PO Box 199 Unanderra NSW 2526

ph :: (02) 4272 9944 fax :: (02) 4272 9933 em :: sales@soilco.com.au

www.soilco.com.au