

# pH Soil Testing Kit Instructions



Plants need the correct pH (*acidity / alkalinity*) level which controls how well plants utilize the nutrients available in your soil.

You can then choose plants with the same pH preferences, avoid those that will not do well in your soil or know how to go about supplying their special growing needs.

Soil should be tested periodically throughout the growing season, but it is especially recommended to test before planting in spring and when preparing beds in autumn.

## The easiest way to test

All you do is put a sample into the test tube, add pH Solution and add barium sulphate, shake and watch the colour develop.

**PLEASE READ THIS INSTRUCTION BOOKLET CAREFULLY BEFORE USE**

### **INCLUDED IN THE KIT ARE:**

Test Tube, Measuring spoon,  
pipette, pH Liquid and  
pH powder.

**25 TESTS**

Thank you for  
purchasing from the  
Worth Gardening range.

Worth Gardening have a range  
that spans general household use  
through to garden and  
greenhouse.

Our comprehensive soil testing  
range encompasses soil test kits  
and meters - designed with the  
home gardener in mind.  
They offer easy to use accuracy  
and 'take the guesswork out of  
gardening'

# pH

When buying new plants for an established or new garden, it is important to test the pH of your soil to ensure the acidity levels are correct. Your soil's pH may be quite different in various parts of your garden, and therefore each area that you intend to plant should be tested.

## pH and your soil

pH describes how acid or alkaline a soil is. A reading of pH7 is neutral, above means chalky, alkaline soil. Whilst readings below pH7 down to pH4 indicate an acidic soil.

Plants vary in their preferences towards a high, neutral or low pH and you can see at a glance what your plants prefer in our Plant pH Preference list.

By using our pH soil testing kit you can now decide either to alter your soil or whether to buy plants which are suitable for the type of soil you already have.



## Preparing for the test

- (i)** Remove the top 5cm (2") of soil and break up the soil underneath to a depth of approximately 12cm (5"). Place some of the soil into a container and remove all stones and debris such as leaves and twigs. Break the soil up and leave to dry naturally.
- (ii)** Find a suitable container with a lid - like a jam jar.
- a.** *Take one part soil, the larger the representative sample the better.*
  - b.** *Add 4 parts water, preferably distilled, rain or finally tap water. For example measure 50ml or grams of soil and add 200ml / grams of water.*
  - c.** *Seal the container and shake for 30 seconds to a minute.*
  - d.** *Allow the sample to settle which could take 30 minutes to 24 hours depending on the soil type.*

## Carrying out the test

- a. Using the pipette supplied draw up a sample of the clear liquid. (It does not matter if the liquid is still cloudy).*
- b. Fill a clean dry test tube to the 3ml mark from the pipette.*
- c. Add 0.5ml (to the next graduation mark) of pH solution*
- d. Add one heaped scoop of powder.*

**Replace the test tube cap & shake for 30 seconds.**

## Taking the reading

- a. Allow the powder to settle over a 5 minute period allowing the colour to develop.*
- b. Then compare the colour of the liquid in the test tube by holding it against the colour chart.*
- c. Take a note of the reading*

## Altering the pH

Compare your test results for each area of soil in relation to the pH of the plants that you are going to plant (see *Plant pH preference list*). Most plants have a reasonably wide tolerance of at least 1 pH point, and will be comfortable with a pH of around 6.5 but certain plants require an alkaline soil or a particularly acid soil.

The type of soil in your garden will influence the amount of mixture needed to make a change to your soil's pH level.

## Soil types

### **Sandy Soils**

A light, coarse soil comprised of sand and silt

### **Loam Soils**

A medium 'crumbly' soil which consists of a blend of sand and fine clay mixed with a little lime and humus.

### **Clay soils**

A heavy 'lumpy' soil comprised with small amounts of lime and humus which tends to be waterlogged in the winter months and very dry in the summer months.

## TO INCREASE SOIL ALKALINITY - GROUND LIMESTONE (per g/m<sup>2</sup>)

SOIL TYPE	pH CHANGE 6.0 - 6.5	pH CHANGE 6.0 - 6.5	pH CHANGE 6.0 - 6.5	pH CHANGE 6.0 - 6.5
Sandy Soil	146	238	434	621
Loam Soil	187	383	621	961
Clay Soil	238	476	816	1200

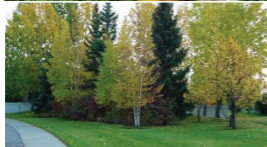
To increase soil acidity; add Sulphate of Ammonia or Flowers of Sulphur in the quantities recommended by the manufacturers. The addition of Garden Compost or manure will often increase a soils acidity level.



# Lawns

**Preparing a new lawn** - Ideally you need a loam soil with a pH of between 6 and 7. Grass seeds do not germinate easily with a pH below 6 and the majority of grasses are not lime lovers. The addition of lime may be required if pH levels are below 6. Clay soils will often be found to have a low pH level.

**An established lawn** - Do not add lime unless your soil pH is low but remember that the annual addition of Sulphate of Ammonia, Garden Compost and / or manure will tend to reduce the pH level over time making the addition of lime necessary.





## pH reading chart



ph 7.5 - **Alkaline**



ph 7.0 - **Neutral**



ph 6.5 - **Slightly acid**



ph 6.0 - **Acid**



ph 5.5 - **Acid**



ph 5.0 - **Very acid**



ph 4.5 - **Very acid**



# pH preference list

## flowers, ornamental trees & shrubs

Name	pH Range	Name	pH Range
Abelia	6.0 - 8.0	Cerastium	6.0 - 7.0
Acacia	6.0 - 8.0	Chrysanthemum	6.0 - 7.0
Acanthus	6.0 - 7.0	Cissus	6.0 - 7.5
Aconitum	5.0 - 6.0	Cistus	6.0 - 7.5
Adonis	6.0 - 8.0	Clarkia	6.0 - 6.5
Ageratum	6.0 - 7.5	Cleanthus	6.0 - 7.5
Ailanthus	6.0 - 7.5	Clematis	5.5 - 7.0
Ajuga	4.0 - 6.0	Colchicum	5.5 - 6.5
Althea	6.0 - 7.5	Columbine	6.0 - 7.0
Alyssum	6.0 - 7.5	Convolvulus	6.0 - 8.0
Amaranthus	6.0 - 6.5	Coreopsis	5.0 - 6.0
Anchusa	6.0 - 7.5	Coronilla	6.5 - 7.5
Androsace	5.0 - 6.0	Corydalis	6.0 - 8.0
Anemone	6.0 - 7.5	Cosmos	5.0 - 8.0
Anthyllis	5.0 - 6.0	Cotoneaster	6.0 - 8.0
Arbutus	4.0 - 6.0	Crab Apple	6.0 - 7.5
Ardisia	6.0 - 8.0	Crocus	6.0 - 8.0
Arenaria	6.0 - 8.0	Cynoglossum	6.0 - 7.5
Aristia	6.0 - 7.5	Daffodil	6.0 - 6.5
Armeris	6.0 - 7.5	Dahlia	6.0 - 7.5
Arnica	5.0 - 6.5	Day Lily	6.0 - 8.0
Asperula	6.0 - 8.0	Delphinium	6.0 - 7.5
Asphodeline	6.0 - 8.0	Deutzia	6.0 - 7.5
Aster	5.5 - 7.5	Dianthus	6.0 - 7.5
Astilbe	6.0 - 8.0	Dogwood	5.0 - 7.0
Aubretia	6.0 - 7.5	Edelweiss	6.5 - 7.5
Avens	6.0 - 7.5	Elaeagnus	5.0 - 7.5
Azalea	4.5 - 6.0	Enkianthus	5.0 - 6.0
Beauty Bush	6.0 - 7.5	Erica	4.5 - 6.0
Bergenia	6.0 - 7.5	Euphorbia	6.0 - 7.0
Bleeding heart	6.0 - 7.5	Everlasting	5.0 - 6.0
Bluebell	6.0 - 7.5	Firethorn	6.0 - 8.0
Broom	5.0 - 6.0	Forget-me-not	6.0 - 8.0
Buddleia	6.0 - 7.0	Forsythia	6.0 - 8.0
Buphthalmum	6.0 - 8.0	Foxglove	6.0 - 7.5
Calendula	5.5 - 7.0	Fritillaria	6.0 - 7.5
Camassia	6.0 - 8.0	Fuchsia	5.5 - 6.5
Candytuft	6.0 - 7.5	Gaillardia	6.0 - 7.5
Canna	6.0 - 8.0	Gazania	5.5 - 7.0
Canterbury Bells	6.0 - 7.5	Gentiana	5.0 - 7.5
Carnation	6.0 - 7.5	Geum	6.0 - 7.5
Catalpa	6.0 - 8.0	Gladioli	6.0 - 7.0
Celosia	6.0 - 7.0	Giobularia	5.5 - 7.0
Centaurea	5.0 - 6.5	Godetia	6.0 - 7.5

Name	pH Range
Goldenrod	5.0 - 7.0
Gourd	6.0 - 7.0
Grass Bent	5.5 - 6.5
Clover	6.0 - 7.0
Fesau	6.0 - 7.5
Meadow	6.0 - 7.5
Pampas	6.0 - 8.0
Rye	6.0 - 7.0
Gypsophila	6.0 - 7.5
Hawthorn	6.0 - 7.0
Helianthus	5.0 - 7.0
Helleborus	6.0 - 6.5
Holly	5.0 - 6.5
Hollyhock	6.0 - 8.0
Honeysuckle	6.0 - 7.5
Hydrangea ( <i>Blue</i> )	4.0 - 5.0
Hydrangea ( <i>Pink</i> )	6.0 - 7.0
Hydrangea ( <i>Wht</i> )	6.5 - 8.0
Hypericum	5.5 - 7.0
Iris	5.0 - 6.5
Ivy	6.0 - 8.0
Juniper	5.0 - 6.5
Kalmia	4.5 - 5.0
Kerria	6.0 - 7.0
Laburnum	6.0 - 7.0
Laurel	4.5 - 6.0
Lavender	6.5 - 7.5
Liatris	5.5 - 7.5
Ligustrum	5.0 - 7.5
Lilac	6.0 - 7.5
Lily of the Valley	4.5 - 6.0
Lithospermum	5.0 - 6.5
Lobelia	6.0 - 7.5
Lupinus	5.5 - 7.0
Magnolia	5.0 - 6.0
Mahonia	6.0 - 7.0
Marguerite	6.0 - 7.5
Molinia	4.0 - 5.0
Moraea	5.5 - 6.5
Morning Glory	6.0 - 7.5
Moss	6.0 - 8.0
Moss, sphagnum	3.5 - 5.0
Myosotis	6.0 - 7.0
Narcissus	6.0 - 7.5
Nasturtium	5.5 - 7.5
Nicotiana	5.5 - 6.5
Pachysandra	5.0 - 8.0
Paeonia	6.0 - 7.5

Name	pH Range
Pansy	5.5 - 7.0
Passion Flower	6.0 - 8.0
Pasque Flower	5.0 - 6.0
Paulownia	6.0 - 8.0
Pea - Sweet	6.0 - 7.5
Penstemon	5.5 - 7.0
Peony	6.0 - 7.5
Periwinkle	6.0 - 7.5
Petunia	6.0 - 7.5
Pinks	6.0 - 7.5
Pittosporum	5.5 - 6.5
Plantain	6.0 - 7.5
Poligonum	6.0 - 7.5
Polyanthus	6.0 - 7.5
Poppy	6.0 - 7.5
Portulaca	5.5 - 7.5
Primrose	5.5 - 6.5
Primula	6.0 - 7.5
Privet	6.0 - 7.0
Prunella	6.0 - 7.5
Prunus	6.5 - 7.5
Pyracantha	5.0 - 6.0
Pyrethrum	6.0 - 7.5
Red Hot Poker	6.0 - 7.5
Rhododendron	4.5 - 6.0
Rose: <i>Hybrid Tea</i>	5.5 - 7.0
<i>Climbing</i>	6.0 - 7.0
<i>Rambling</i>	5.5 - 7.0
Salvia	6.0 - 7.5
Santpaulia	6.0 - 7.0
Scabiosa	5.0 - 7.5
Sea Grape	5.0 - 6.5
Sedum	6.0 - 8.0
Snapdragon	5.5 - 7.0
Snowdrop	6.0 - 8.0
Soapwort	6.0 - 7.5
Spirea	6.0 - 7.5
Spruce	4.0 - 5.0
Stock	6.0 - 7.5
Stonecrop	6.5 - 7.5
Sumach	5.0 - 6.5
Sunflower	6.0 - 7.5
Sweet William	6.0 - 7.5
Syringa	6.0 - 8.0
Tamarix	6.5 - 8.0
Tobacco	5.5 - 7.5
Trillium	5.0 - 6.5
Tulip	6.0 - 7.0

Name	pH Range
Viburnum	5.0 - 7.5
Viola	5.5 - 6.5
Violet	5.0 - 7.5
Virginia Creeper	5.0 - 7.5
Wallflower	5.5 - 7.5

Name	pH Range
Water Lily	5.5 - 6.5
Weyela	6.0 - 7.0
Wistine	6.0 - 8.0
Zinna	5.5 - 7.5

## pH preference list fruit

Name	pH Range
Apple	5.0 - 6.5
Apricot	6.0 - 7.0
Avocado	6.0 - 7.5
Banana	5.0 - 7.0
Blackberry	5.0 - 6.0
Cherry	6.0 - 7.5
Cranberry	5.5 - 6.5
Currant: Black	6.0 - 8.0
Red	5.5 - 7.0
White	6.0 - 8.0
Damson	6.0 - 7.5
Gooseberry	5.0 - 6.5
Grapevine	6.0 - 7.0
Grapefruit	6.0 - 7.0
Hazelnut	6.0 - 7.0
Hop	6.0 - 7.5
Lemon	6.0 - 7.0

Name	pH Range
Lychee	6.0 - 7.0
Mango	5.0 - 6.0
Melon	5.5 - 6.5
Mulberry	6.0 - 7.5
Nectarine	6.0 - 7.5
Papaw	6.0 - 7.5
Peach	6.0 - 7.5
Pear	6.0 - 7.5
Pineapple	5.0 - 6.0
Plum	6.0 - 7.5
Pomegranate	5.5 - 6.5
Quince	6.0 - 7.5
Raspberry	5.0 - 6.5
Rhubarb	5.5 - 7.0
Strawberry	5.0 - 7.5
Watermelon	5.5 - 6.5



## pH preference list

### vegetables & herbs

Name	pH Range	Name	pH Range
Artichoke	6.5 - 7.5	Millet	6.0 - 6.5
Asparagus	6.0 - 8.0	Mint	7.0 - 8.0
Basil	5.5 - 6.5	Mushroom	6.5 - 7.5
Bean	6.0 - 7.5	Mustard	6.0 - 7.5
<i>(Runner, French, Broad)</i>		Olive	5.5 - 6.5
Beetroot	6.0 - 7.5	Onion	6.0 - 7.0
Broccoli	6.0 - 7.0	Paprika	7.0 - 8.5
Brussels Sprout	6.0 - 7.5	Parsley	5.0 - 7.0
Cabbage	6.0 - 7.5	Parsnip	5.5 - 7.5
Calabrese	6.5 - 7.5	Pea	6.0 - 7.5
Carrot	5.5 - 7.0	Peanut	5.0 - 6.5
Cauliflower	5.5 - 7.5	Pepper	5.5 - 7.0
Celery	6.0 - 7.0	Peppermint	6.0 - 7.5
Chicory	5.0 - 6.5	Pistacio	5.0 - 6.0
Chinese Cabbage	6.0 - 7.5	Potato	4.5 - 6.0
Chives	6.0 - 7.0	Potato- Sweet	5.5 - 6.0
Corn - Sweet	5.5 - 7.5	Pumpkin	5.5 - 7.5
Cress	6.0 - 7.5	Radish	6.0 - 7.0
Courgettes	5.5 - 7.0	Rice	5.0 - 6.5
Cucumber	5.5 - 7.0	Rosemary	5.0 - 6.0
Fennel	5.0 - 6.0	Sage	5.5 - 6.5
Garlic	5.5 - 7.5	Shallot	5.5 - 7.0
Ginger	6.0 - 8.0	Sorghum	5.5 - 7.5
Horseradish	6.0 - 7.0	Soyabean	5.5 - 6.5
Kale	6.0 - 7.5	Spearmint	5.5 - 7.5
Kohorabi	6.0 - 7.5	Spinach	6.0 - 7.5
Leek	6.0 - 8.0	Swede	5.5 - 7.0
Lentil	5.5 - 7.0	Thyme	5.5 - 7.0
Lettuce	6.0 - 7.0	Tomato	5.5 - 7.5
Majoram	6.0 - 8.0	Turnip	5.5 - 7.0
Marrow	6.0 - 7.5	Water Cress	6.0 - 8.0



## pH preference list

### house & greenhouse plants

Name	pH Range	Name	pH Range
Abutilon	5.5 - 6.5	Clivia	5.5 - 6.5
Acorus	5.0 - 6.0	Cockscomb	6.0 - 7.5
Aechmea	5.0 - 5.5	Coral Berry	5.5 - 7.5
African Violet	6.0 - 7.0	Coffee Plant	5.0 - 6.0
Amaryllis	5.5 - 6.5	Coleus	6.0 - 7.0
Anthurium	5.0 - 6.0	Columnnea	4.5 - 5.5
Apostle Plant	5.5 - 6.5	Crassula	5.0 - 6.0
Aralia	6.0 - 7.5	Creeping Fig	5.0 - 6.0
Arrowhead	5.0 - 6.0	Croton	5.0 - 6.0
Asparagus Fern	6.0 - 7.0	Crown of Thorns	6.0 - 7.5
Azalea	4.5 - 6.0	Cuphea	6.0 - 7.5
Baby's Breath	6.0 - 7.5	Cyclamen	6.0 - 7.0
Baby's Tears	5.0 - 6.0	Cyperus	5.0 - 7.5
Begonia	5.5 - 7.0	Daphne	6.5 - 7.5
Bird of Paradise	6.0 - 6.5	Devil's Ivy	5.0 - 6.0
Bishop's Cap	5.0 - 6.0	Dieffenbachia	5.0 - 6.0
Black-eyed Susan	5.5 - 7.5	Dipladenia	6.0 - 7.5
Blood Leaf	5.5 - 6.5	Dizygotheca	6.0 - 7.5
Bottle Brush	6.0 - 7.5	Dracanea	5.0 - 6.0
Boxwood	6.0 - 7.5	Dragon Tree	5.0 - 7.5
Bougainvillea	5.5 - 7.5	Dutchman's Pipe	6.0 - 8.0
Bromeliads	5.0 - 6.0	Easter Lily	6.0 - 7.0
Butterfly Flower	6.0 - 7.5	Elephant's Ear	6.0 - 7.5
Boston	5.5 - 6.5	English Ivy	6.0 - 7.5
Button	6.0 - 8.0	Episcia	6.0 - 7.0
Cactus	4.5 - 6.0	Eucalyptus	6.0 - 8.0
Calceolaria	6.0 - 7.0	Fan Iris	6.0 - 8.0
Caladium	6.0 - 7.5	Feather	5.5 - 7.5
Calla Lily	6.0 - 7.0	Feijoa	5.0 - 7.5
Camelia	4.5 - 5.5	Ferns: Bird's Nest	5.0 - 5.5
Capsicum Pepper	5.0 - 6.5	Fig ( <i>Ficus</i> )	5.0 - 6.0
Cardinal Flower	5.0 - 6.0	Fittonia	5.5 - 6.5
Cast Iron Plant	4.0 - 5.5	Freesia	6.0 - 7.5
Castor Oil Plant	5.5 - 6.5	French Marigold	5.0 - 7.5
Century Plant	5.0 - 6.5	Gardenia	5.0 - 6.0
Chinese Evergreen	5.0 - 6.0	Genista	6.5 - 7.5
Chinese Lantern	6.0 - 7.5	Geranium	6.0 - 8.0
Chinese Primrose	6.0 - 7.5	Gloxinia	5.5 - 6.5
Christmas Cactus	5.0 - 6.5	Grape Hyacinth	6.0 - 7.5
Cineraria	5.5 - 7.0	Grape Ivy	5.0 - 6.5
Clerodendrum	5.0 - 6.0	Grevillia	5.5 - 6.5

<b>Name</b>	<b>pH Range</b>
Hedera ( <i>Ivy</i> )	6.0 - 7.5
Heliotropium	6.0 - 8.0
Hens & Chickens	6.0 - 7.0
Herringbone Plant	5.0 - 6.0
Hyacinth	6.5 - 7.5
Hoya	5.0 - 6.5
Ice Plant	6.0 - 8.0
Inch Plant	5.0 - 6.0
Impatiens ( <i>Busy Lizzie</i> )	5.5 - 6.5
Indigofera	6.0 - 7.5
Iresine	5.0 - 6.5
Ivy Tree	6.0 - 7.0
Jacaranda	6.0 - 7.5
Japanese Sedge	6.0 - 8.0
Jasminum	5.5 - 7.0
Jerusalem Cherry	5.5 - 6.5
Jessamine	5.0 - 6.0
Kaffir	6.0 - 7.5
Kalanchoe	6.0 - 7.5
Kangaroo Thorn	6.0 - 8.0
Kangaroo Vine	5.0 - 6.5
Lace Flower	6.0 - 7.5
Lantana	5.5 - 7.0
Laurus ( <i>Bay tree</i> )	5.0 - 6.0
Lemon Plant	6.0 - 7.5
Mimosa	5.0 - 7.0
Mind your own Business	5.0 - 5.5
Monstera ( <i>Swiss Cheese Plant</i> )	5.0 - 6.0
Mother-of- Thousands	5.0 - 6.0
Myrtle	6.0 - 8.0
Maidenhair	6.0 - 8.0
Nephtytis	4.5 - 5.5
Never Never Plant	5.0 - 6.0
Nicodernia ( <i>Indoor Oak</i> )	6.0 - 8.0
Nicotiana	5.5 - 6.5
Norfolk Island Pine	5.0 - 6.0
Oleander	6.0 - 7.5
Oplisemenus	5.0 - 6.0
Orange Plant	6.0 - 7.5
Orchid	4.5 - 5.5

<b>Name</b>	<b>pH Range</b>
Oxalis	6.0 - 8.0
Painted Lady	6.0 - 7.5
Palms	6.0 - 7.5
Pandanus	5.0 - 6.0
Patient Lucy	5.5 - 6.5
Peacock Plant	5.0 - 6.0
Pelagoniums	6.0 - 7.5
Pellonia	5.0 - 6.0
Peperomia	5.0 - 6.0
Philodendron	5.0 - 6.0
Phlox	5.0 - 6.0
Pitcherplant	4.0 - 5.5
Pilea	6.0 - 8.0
Plumbago	5.5 - 6.5
Podocarpus	5.0 - 6.5
Poinsettia	6.0 - 7.5
Polyscias	6.0 - 7.5
Pothos	5.0 - 6.0
Prayer Plant	5.0 - 6.0
Puncia	5.5 - 6.5
Rabbits Foot	6.0 - 7.5
Rubber Plant	5.0 - 6.0
Sansevieria	4.5 - 7.0
Saxifraga	6.0 - 8.0
Schizanthus	6.0 - 7.0
Scilla	6.0 - 8.0
Selaginella	6.0 - 7.0
Senecio	6.0 - 7.0
Shrimp Plant	5.5 - 6.5
Spanish Bayonet	5.5 - 7.0
Spider Plant	6.0 - 7.5
Star of Bethlehem	6.0 - 8.0
Succulents	5.0 - 6.5
Thunbergia	5.5 - 7.5
Turk's Cap	6.0 - 7.0
Umbrella Tree	5.0 - 7.0
Velvet Plant	5.5 - 6.5
Venus Flytrap	4.0 - 5.0
Verbena	6.0 - 8.0
Vinca	6.0 - 7.5
Violet Flame	6.0 - 7.0
Wandering Jew	5.0 - 6.0
Weeping Fig	5.0 - 6.0
Winter Creeper	5.5 - 7.0
Yucca P	6.0 - 8.0
Zebra Plant	5.0 - 6.0

record **your results**

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record **your results**

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**record your results**

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record **your results**

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