

USER MANUAL

RAPITECH SOIL TEST KIT STK008

pH • Nitrogen (N) • Phosphorus (P) • Potassium (K)
4 x 20 tests

PREPARING YOUR SOIL SAMPLES

For lawns, annuals or house plants, take the soil sample from about 5–8 cm below the surface.

For perennials especially shrubs, vegetables and fruit, the sample should be taken 10 cm deep.

Avoid touching the soil with your hands.

Test different areas of your soil, as it may differ according to past cultivation, underlying soil differences or a localized condition. It is preferable to make individual tests on several samples from different areas, than to mix the samples together.

Place your soil sample into a clean container.

Break the sample up with the trowel or a spoon and allow it to dry out naturally.

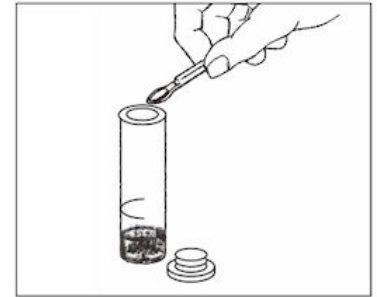
This is not essential, however it makes working with the sample easier.

Remove any small stones, organic material such as grass, weeds or roots and hard particles of lime. Then crumble the sample finely and mix it thoroughly.

PH TEST

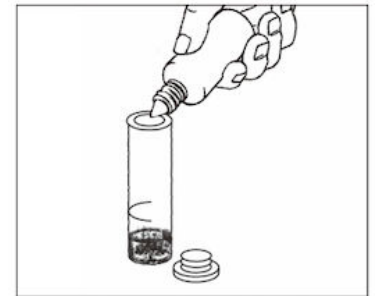
1

Put the dry crumbled soil in a test tube up to the 1 ml. mark. Add one spoon of barium sulphate.



2

Add the pH test solution to the 2,5 ml. mark. Cap the tube.



3

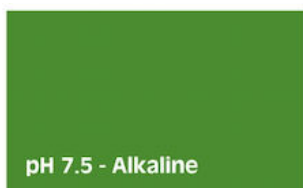
Shake the tube thoroughly.



4

Put the tube down and leave it to settle for about 5 minutes. If the solution takes too long to settle, add another scoop of barium sulphate and re-shake.

Compare the color of the test tube with the colors of the pH reading chart.



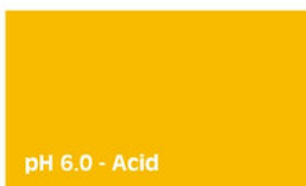
pH 7.5 - Alkaline



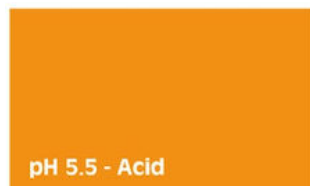
pH 7.0 - Neutral



pH 6.5 - Slight Acid



pH 6.0 - Acid



pH 5.5 - Acid



pH 5.0 - Very Acid



pH 4.5 - Very Acid

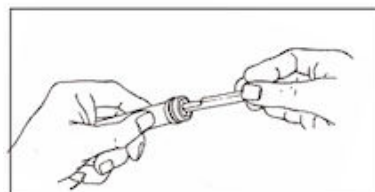
N, P & K TESTS

The filtering device and filter disks are used for the Nitrogen, Phosphorus and Potassium tests to extract nutrients from the soil

Stage One - Preparing the filtering device

Unscrew the green cap of the device and remove the plunger. Put one of the filter papers into the bottom of the plunger ensuring a neat fit by using the end of the spoon.

SPECIAL NOTE: if the soil is particularly clay based, or the solution that filters through is too clouded, use two disks together

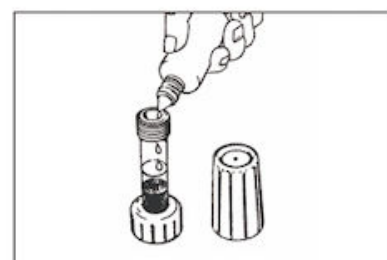


Stage Two - Filtering the Nutrients

1 Fill the barrel of the filtering device with your dry and crumbled soil sample to the level required: N up to 1 ml., P up to 0,5 ml., and K up to 0,5 ml.

Add the appropriate test solutions:

- 2**
- N Test = add N1 solution up to the 2,5 ml. mark.
 - P Test = add P1 solution up to the 2 ml. mark.
 - K Test = add K1 solution up to the 2 ml. mark.



3 Insert the plunger just inside the barrel of the filtering device and gently shake for 30 seconds. Press the plunger down slowly, until it just touches the soil/test solution in the barrel.



4

Put the cap on the filtering device and screw it down slowly until you see the solution filtering from the barrel into the plunger (inside). You may feel strong resistance while filtering. Holding the filtering device at a 45 degree angle rather than holding it straight up should help to relieve the resistance.



5

When there is enough solution in the plunger, unscrew and remove the cap of the filtering device, and pour the solution from the plunger into the test tube up to the 1 ml. mark. Complete the test with the specific instructions for N, P and K (you'll find them below).

Results

Nitrogen (N) Test

Add one level spoon of the N2 powder. Cap the test tube and gently shake for 10 seconds.

Let the tube stand untouched for 5 minutes. Take your reading by holding the test tube against the Nitrogen reading chart.

N4 - Surplus

N3 - Sufficient

N2 - Adequate

N1 - Deficient

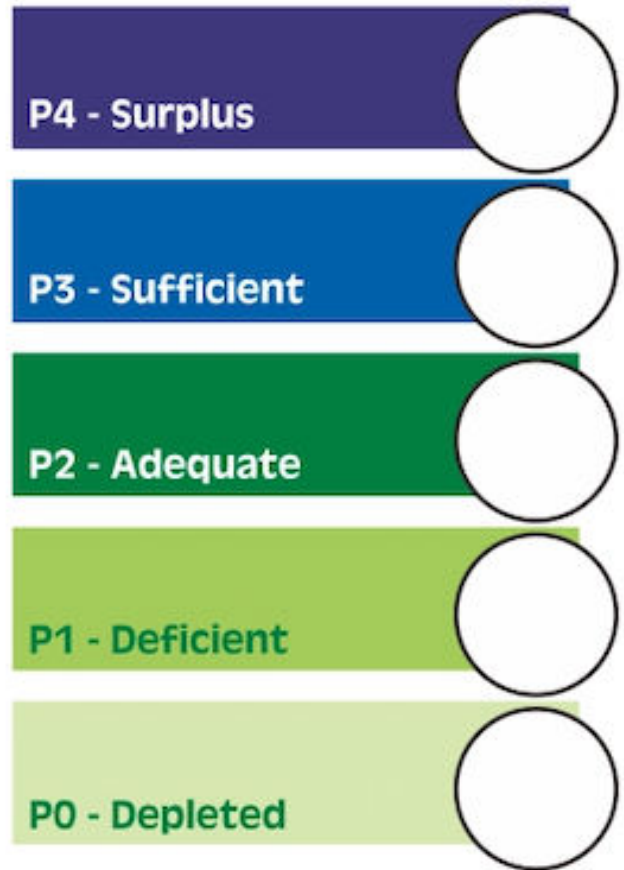
N0 - Depleted

Phosphorus (P) Test

Add ½ of a level spoon of the P2 powder. Cap the test tube and immediately take the color reading by putting the tube on the circle printed next to the comparison chart and look down through the tube to judge the color against the Phosphorus reading chart.



Look down through the tube for Phosphorus and Potassium test readings.

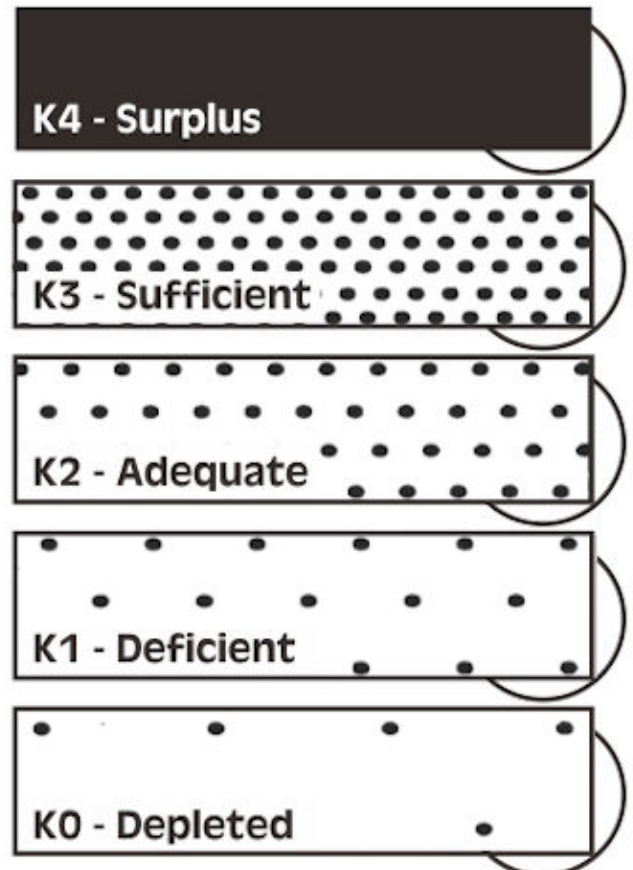


Potassium (K) Test

Add 0,5 ml. of the K2 solution. Let the tube stand untouched for 5 minutes before taking a reading. The solution will show a certain degree of cloudiness according to how much Potassium is present.

Put the test tube in the circle printed under the black and dotted rectangles in the Potassium Reading Chart. Put the tube first on the High (= Surplus) reading, and move it down the chart until one of the boxes is just visible.

This box will be the result of your Potassium reading.



Soil types

Sandy Soil: A light, coarse soil comprised of crumbling and alluvial debris.

Loam Soil: A medium friable soil, consisting of a blend of coarse (sand) alluvium and fine (clay) particles mixed within fairly broad limits with a little lime and humus.

Clay Soil: A heavy, clinging, impermeable soil, comprised of very fine particles with little lime and humus and tending to be waterlogged in winter and very dry in summer.

Fertilizer Recommendations

Adequate reserves of plant food should be available in the soil before planting vegetables, preparing a seed or flower bed, sodding or seeding a lawn, or planting shrubs and trees. To make up any

deficiencies, apply fertilizers according to your test soil result. You can buy products in a specialized garden store to increase the individual levels of N, P and K.

Safety & Hygiene

All the liquids and powders are safe if used correctly. Keep out of the reach of children and animals, and ensure that you wash your hands thoroughly after each test. In the event the liquid or the powder is swallowed, drink plenty of water and seek medical advice. Keep away from food and drinks.

Special recommendations for lawn

In case of a new lawn, pay special attention to soil preparation before planting. Proper soil preparation for any size lawn will have a significant impact on the amount of water and care it demands in the future. Till the soil to a depth of at least 30 cm and incorporate plenty of organic material (20 cm or more). Test your soil for pH and adjust to the levels recommended on the pH preference list for your type of grass.

Refer to the adjusting soil pH chart for recommended lime or sulfate applications. For established lawns, Nitrogen is the most essential nutrient to promote lush growth and a deep, green color. Phosphorus and Potassium, in lesser quantities, are also important for strong root formation and growth. Compound fertilizers will supply all 3 nutrients, or you can select an individual fertilizer such as Nitrate or Soda.

Cleaning and storage

It is important to wash out all the test tubes and the filtering device in warm soapy water immediately after each test. Rinse well and wait until the tubes and the filtering device are dry. The kit should be stored in a clean and dry environment, preferably in a sealed container. Make sure all the bottles are properly sealed and that storage conditions are not subject to extreme heat or cold.

Once opened, the liquids and powder should be used within a twelve month period. The filter papers must remain dry !

Have a look at the pH Preference list on our website or search for the proper pH value online.