



FERTOMETER

If a potted plant is not growing or flowering well, then this is often caused by wrong fertilisation. You might ask yourself if you have to add fertiliser now or, on the contrary, if you have already added too much fertiliser? The Fertometer ends this uncertainty!

A few conditions are significant for a good measurement:

- To get a reliable test result it is important that the potting soil is uniformly wet! If that is not the case, then water your plant first and wait at least 30 minutes before measuring. It is a good idea to water your plants in the morning and measure in the afternoon.
- Take care that the pin is clean before measuring.
- The best results are obtained at temperatures between 18 and 23° C.
- It is important to clean the pin after use and to store your Fertometer in a dry place to prevent it from oxidisation. If the metal of the pin starts to get dull you can clean it carefully with a slightly wet sponge or a soft scouring pad and dry it with a soft cloth.
- Never leave the Fertometer standing in the soil!

For bigger pots or containers several measurements in different spots are recommended. Three to five tests will give you a good average of total available nutrients.

It is recommended to repot or to plant in bigger containers with new potting compost in springtime. Old potting soil gradually collects all kind of salts (recognisable as a white crust at the rim of the pot) which finally results in the

salinisation of the plant. The leaves will become yellow and the plant stops growing. Read more in tips.

The Fertometer uses a flat 9V battery type 6LR61 (not supplied). To test the battery push the button. The yellow light will show. If the light does not come on or flickers the battery is flat.

The Fertometer is not suitable to test the EC of liquids. To test the EC of your nutrient solution we would recommend the Bluelab truncheon.

How does the Fertometer® work?

The Fertometer uses the process of electrolysis and is also referred to as an EC-meter (Electrical Conductivity) in technical terms.

The Fertometer works on the same principles as a plant. Like the roots of a plant, it absorbs nutrients from the soil. By measuring the quantity of the absorbed substances, it can be determined whether there are sufficient nutrients left in the soil. These absorbable nutrients are called ions and consist mainly of nitrogen, the principal nutrient for plants during the growing season.

All ions are involved in the measurement, so as to get a good indication of the amount of fertiliser in the pot. It is, though, not possible to recognize from the measurement if a plant is lacking other elements such as potassium or magnesium.

An EC-meter reads and interprets an electrical current. This interpretation could be visually represented by an analogue or a digital display. In the case of the Fertometer, a clear and simple indication of the result has been chosen using three lights.

Definition of the measurements used

Measurements are expressed in EC-values (Electrical Conductivity).

These EC-values, measured in mS/cm (milli-Siemens per centimetre), are converted to three digital values that have been designed for ease of use: in what we shall call the 'green band', sufficient nutrients are available. In most cases, the potted plants are lacking in nutrients and results will be in the 'yellow band'.

In some descriptions of EC-values other units are used. American practice uses dS/m (deci-Siemens per meter) or mmhos/cm (milli-mhos per centimetre). 1 S is equal to 1/ohm, the inversion of ohm (mho).

EC is the conductivity of an electrical current through one centimetre of medium. In this case, the medium is soil. Per definition, one should obtain a reading of 1mS/cm, if the medium's salt content measures 620ppm (parts per million). Another much-used scale is g/l (gram per liter), 620ppm = 620mg/l = 0,62g/l.

Temperature dependency

The EC-measurement is dependent on temperature. The Fertometer is set at a standard of 20°C. Results are the most accurate if obtained around this temperature. Lower temperatures will result in lower EC-values, whereas higher temperatures will lead to increased values (2.2% per °C).

Accuracy of measurement

The accuracy of the Fertometer depends mainly on the quantity of water contained in the soil. If the soil is 100% saturated, the result will be the most accurate. Up to 70% saturation, they will still be reliable, but if the soil is drier, the results are no longer usable. The conductivity of the soil will be impaired. To be confident that the soil is adequately wet, water the plant 30 minutes before use.

The accuracy of the measurements is not affected by the electronics or the analogue/digital transformation.

For any further hydroponic advice/information please visit www.3ch.co.uk or visit one of our stores today.