

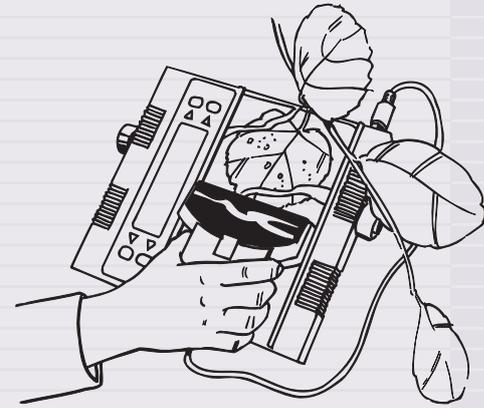


PLANT PHYSIOLOGICAL RESEARCH

You will return to the contents of P4 EARTH MONITORING by clicking the pictogram

P4.50

A diseased leaf is researched in the field using the portable leaf area meter.



19.13 Portable leaf area meter for diseased leaves

The portable compact leaf area meter is suitable for non-destructive measurement of leaf surfaces that are affected by diseases. The measurements are done by means of user friendly, menu driven software.

The meter consists of a high resolution scanner and a scan board with integrated data processing and storage. The instrument is provided with a large graphical display, allowing direct read out of the measured parameters of the scanned leaf. The measurements can be shown in mm, cm or inches, and are stored together with leaf images. The leaf area meter has a memory size for approximately 2000 measurements. The data can be transmitted via an RS232 interface to a printer or PC. The meter is supplied including battery charger, scan board, software and RS232 cable.

The meter operates in accordance with the pressure bomb method of Scholander. Following this technique a leaf or small branch is cut off and is being exposed to atmospheric pressure in the sample holder. Subsequently, the pressure in the pressurization vessel is being increased, until the moment the plant moisture is pushed through the stem cut. This equilibrium pressure is an indicator for the negative pressure of the water in the plant system at the moment the sample was cut off. Unusual moisture tensions (as a result of water shortages) imply deterioration of plant growth and the resulting yield. The system is suitable for branches and leaves with a stem cross section of at most 6 mm.

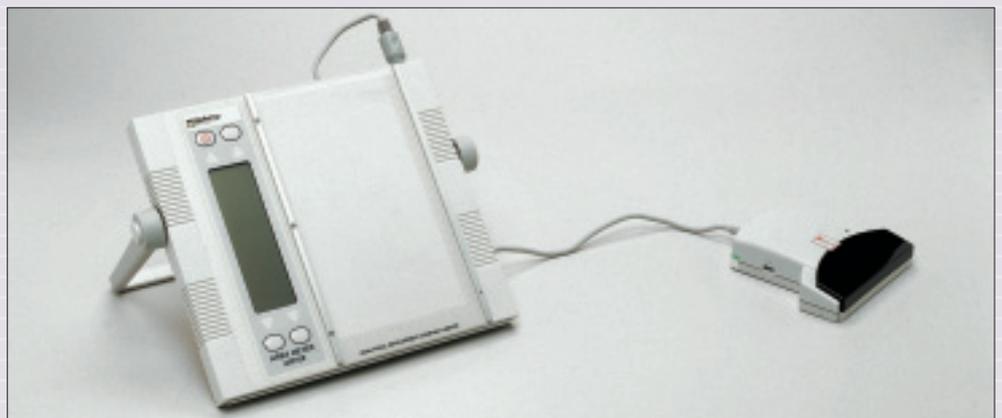
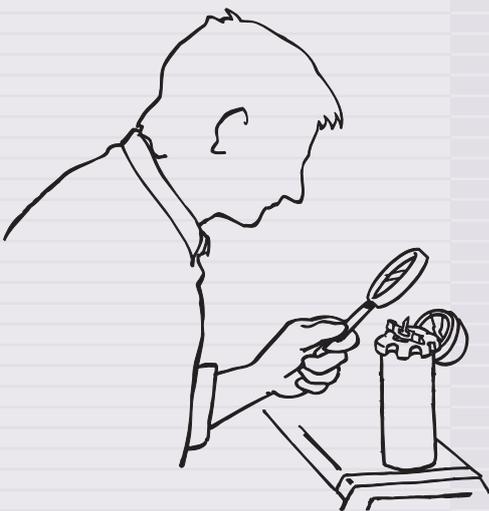
19.15 Laboratory plantwater status console

An analog system to determine the water potential in plant sections, up to 40 Bar. The instrument is supplied with an adjustable pressure source, pressure vessel, standard sample holder, accessories and manometer.

19.20 Field plantwater status console

The field plantwater status console can be used for observations in the field, allowing plant observations in accordance with the same working principles as the laboratory apparatus. The chamber pressure can be read out by a dial gauge. The gauge has a maximum pressure needle which can be used to 'freeze' the reading.

The sample is checked for sap discharge.



Portable leaf area meter



Laboratory plantwater status console



Field plantwater status console