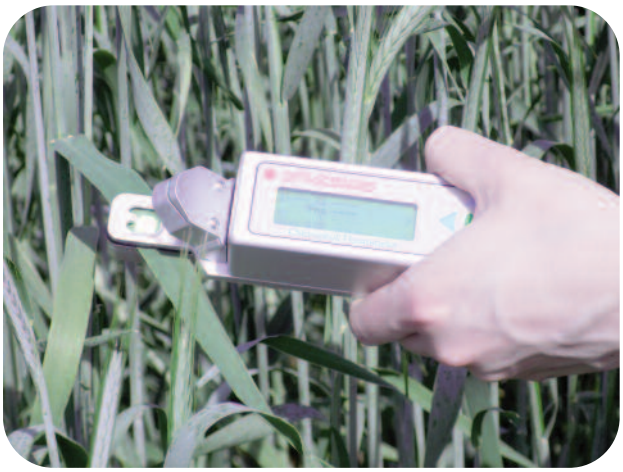
Plant Stress Kit

Compact and affordable Y(II)ETR & F_V/F_M meters

Measure both light adapted Quantum Yield of PSII or Y(II) and dark adapted Maximum Potential Quantum Efficiency of PS(II) or F_V/F_M with these two fluorometers in one kit. Also sold separately.



Also sold separately

Y(II)/ETR meter

Y(II) and ETR corrected for absorptance
Leaf absorptance using RGB sensors
PAR and leaf temperature measured
Fm' correction according to Loriaux 2013
Long-term fluorescence monitoring mode

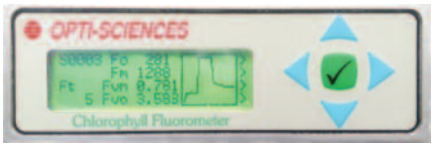
F_V/F_M meter

Rapid measurement of large populations
Lightweight dark adaption clips
Graphic F_V/F_M trace display
Compact, ergonomic design
Measurements from the same known state

Compact, Lightweight and Portable

Supplied in a rigid clamshell case, the Plant Stress Kit comprises the Y(II) meter, F_V/F_M meter, 2 x Li-ion batteries, 2 x USB chargers, 2 x USB cables, 10 x dark adaption clips, 2 x absorptance calibration cards and manual on USB flask drive.

Based on established and proven scientific principles, these are the most advanced, compact and portable chlorophyll fluorometers available.



Yield(II) is measured from the top of the leaf along with PAR, while the leaf temperature is measured from the base of the chamber.

The F_V/F_M meter automatically adjusts modulated light intensity and detector gain for accuracy and reliability. USB lithium ion batteries allow continuous use for up to 8 hours in the field.

Technical Specification

Y(II)/ETR Meter

Measured parameters:

Y(II): Quantum Photosynthetic Yield of PS(II)

ETR: Electron transport rate

PAR: Photosynthetically active radiation

T: Leaf temperature

F_{MS} (or F_M'): Maximum fluorescence at steady state

F_S (or F): Fluorescence under steady state

Loriaux 2013 correction of ETR and F_M'

α: Leaf absorptance & transmittance

RH: Relative humidity 5% to 95% (+/-2% over the range)

F_V/F_M Meter

Measured parameters:

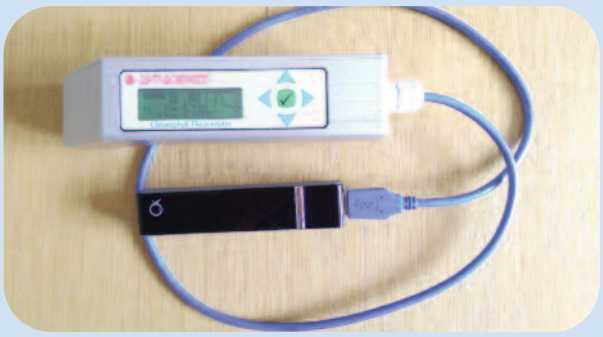
F_V/F_M: Maximum potential quantum efficiency of PSII

F_V/F_O: A normalised ratio used to improve stress detection

Fo: Fluorescence after dark adaption

Fm: Maximum fluorescence during a saturating pulse following a period of dark adaption

Ft: Instantaneous fluorescence



USB port provided on each meter.

Data is simply downloaded to a PC or laptop device.

.csv data file format compatible with spreadsheet software.

Y(II) and Fv/Fm meters

Saturation pulse: 7,000µmol white LED
6,000µmol red LED

Modulated light: Red 660nm LED with 690nm short pass filter

Actinic light source: Ambient light only
Dark adapted only

Detection method: Pulse amplitude modulation method

Detector & Filters: PIN photodiode with 700~750nm bandpass filter

Sampling Rate: Auto-switching from 1 to 10,000 points per second, depending on test type and phase

Automated routine to optimally set the modulated light intensity. The modulated light may also be set manually

Multi-Flash Fm' correction for all light adapted protocols & quenching: May be turned off

Test Duration: About 3 seconds for fast tests and may be run for months in monitor mode

Special Algorithms: 8 point rolling 25 ms average to determine Fm and Fm' eliminating saturation pulse NPQ as an issue

Storage Capacity: 2Gb non-volatile flash memory, supporting almost unlimited data sets

Output: By USB. Comma delineated (.csv) files, all parameters labelled and organised into columns

User Interface: Menu driven with arrows

Display: Graphic black and white display 132 x 32 pixels

Power Supply: 8 hour USB lithium ion battery supplied as standard. Mains current may also be used. Mains plug and charger supplied as standard

Dimensions: 23cm long with a USB cable that is 160cm long
Hard shell case: 36 x 28 x 15mm

Weight: Meters with battery & USB cable: 0.45kg
Complete with case & accessories: 1.5kg

Operating temperature range: 0°C to 50°C

Absorptance measuring standard: 2 included