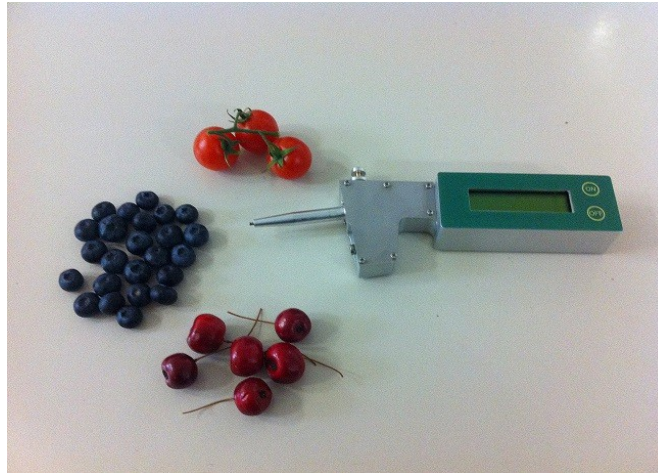


FruitFirm meter



Fruitfirm, is a small, hand-held, self-contained device for non-destructive firmness testing of kiwifruit and other produce. FruitFirm allows firmness to be monitored throughout the supply chain. It is robust and simple to use. FruitFirm can be configured to test ripeness and maturity of a range of fruits - tomatoes, stonefruits, pears and olives. FruitFirm was developed in New Zealand as a research tool.

FruitFirm satisfies the need for a QC device that can rapidly and easily quantify firmness, non-destructively. FruitFirm works by measuring the deceleration of a tiny hammer that impacts the surface of a fruit via a small non-bruising and non-penetrating tip. An in-built processor records the resulting collision, analyses the waveform and displays a value on a digital display. The data displayed may give individual readings or some degree of fruit or sample averaging. Alternatively, the sensor output can be connected to a data acquisition/analysis programme enabling easy logging, downloading and more detailed analysis of data.

SPECIFICATIONS

Display: digital

Range: 0 – 100 Units

Resolution: 1 Unit

Accuracy: +/-5 but normally +/-3

Power supply: internal battery

Operating conditions: 0-50°C / less than 90% humidity

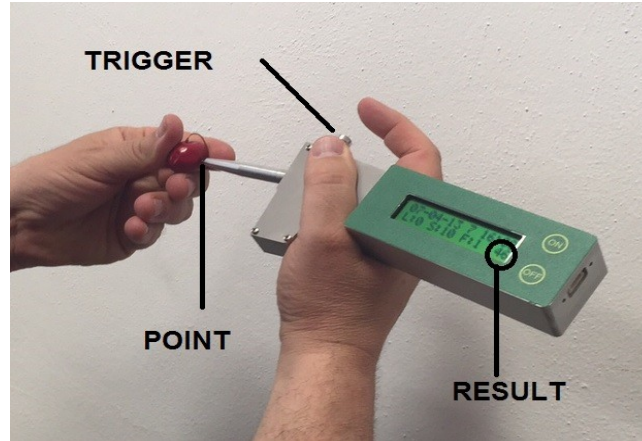
Automatic power off



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HOW TO USE

- 1) turn on the meter
- 2) stick the fruit in front of the sensor head (point)
- 3) press the trigger
- 4) read the result



DISPLAY



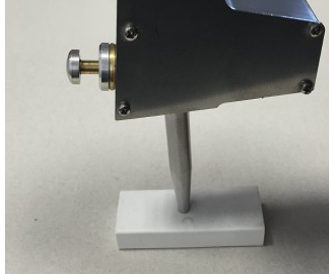
CALIBRATION

The meter must be periodically calibrated before the use. The unit, if well adjusted and calibrated can provide highly repetitive readouts, with a maximum difference of +/-5 but normally +/-3.

- 1) press "ON" once and turn on the meter
- 2) press again and keep pressing "ON" till you will access the menu functions and release the key (you will see on the display PROGRAMMING: CLOCK)
- 3) press ON till you will see on the display PROGRAMMING: CAL.50 St. Rub
- 4) press OFF once
- 5) the display will show 'Measure pressing slowly', this pre-calibration step goes on for about 10 seconds for calibrating also the optical trigger. Hold a fruit in front of the sensor head (point) during which you need to simulate a measure pressing the trigger very slowly a few times (stick the fruit to the point and press the trigger

very slowly, unstick and stick the fruit to the point again and so on). This will allow the unit to measure the value of the optical sensor when the moving part is just about to be released

6) after this initial step the display will show MEASURE 4 TIMES ... you have to measure 4 times on a reference rubber (you need to use a Staedler rubber); place the rubber on the table, using the meter in a vertical position do the 4 measurement



7) the display will show PROGRAMMING: EXIT

8) press OFF once and you are back in the measurement mode