

CCM-200 Chlorophyll Content Meter



Applications

- Measure Chlorophyll in Intact Samples
- Monitor Effects of Environmental Stress
- Evaluate and Determine Nutrient Performance and Requirements
- Studies in Herbicide Activity, Nutrient Deficiency and Leaf Senescence.
- Teaching and Research

Features

- Non-Destructive Measurement
- Lightweight, Hand-Held Design Optimized for Field Work
- Accurate, Reliable, and Easily Repeatable Measurements
- Internal Data-Logging
- Stand Alone Operation- No P.C. Required

The New CCM-200 Chlorophyll Content Meter provides fast accurate, chlorophyll readings on the intact leaves of plants and crops. No more grinding or destructive assays! The measurement is rapid, accurate and simple to obtain, allowing researchers and agronomists to gather and evaluate mission critical data faster than ever before. Especially useful for improving **Nitrogen** and **Fertilizer** management programs, the CCM-200 is also ideal for **Crop Stress**, **Leaf Senescence**, **Plant Breeding**, **Health Determination** and **Quality Control** studies. Furthermore, the affordability and ease of use make it an exceptional teaching tool for botany and plant science courses.

The CCM-200 has the largest on-board memory of any chlorophyll meter available today. Storing over 8,192 measurements internally, users can record days of measurements without having to repeatedly return to the lab or worrying about limited memory. This feature plus the hand-held, battery operated design makes the CCM-200 the most field efficient chlorophyll content meter on the market. Employing a new MEDICAL grade strict tolerance LED source increases accuracy and insures consistent meter to meter readings. A USB interface is built-in for universal connection to your PC or memory card supporting fast downloading of your data.

The CCM-200 means you no longer have to deal with external data loggers and add-ons. All you need for precise chlorophyll measurements is in one lightweight, compact, affordable package. Technology has moved on and now, so can you. The CCM-200 is an instrument that no plant scientist can do without.

CCM-200 Chlorophyll Content Meter

Nitrogen Status

Agriculture

Crop Production

Changes in chlorophyll content can occur as a result of nutrient deficiencies, exposure to environmental stress, exposure to certain herbicides, and differences in light environment during growth (shading). Chlorophyll content can be used to manage nutrient optimization programs that both improve crop yield and help protect the environment. Testing for herbicide damage can indicate the need for a change in herbicide selection or application methods; in order to maintain good weed control while having minimum impact on crop health.

Laboratory methods for determination of chlorophyll content are both time consuming and destructive to the sample. Typically a sample must be detached, ground up in a solvent, then assayed in a spectrophotometer. A sample can be measured only once precluding the monitoring of trends in chlorophyll content over the growing cycle. The CCM-200 provides non-destructive, rapid measurements of relative chlorophyll content without the need to detach and grind a sample.

Chlorophyll has several distinct optical absorbance characteristics that the CCM-200 exploits to measure relative chlorophyll concentration without destructive sampling. Strong absorbance bands are present in the blue and red but not in the green or infrared bands, hence the green appearance of a leaf. By measuring the amount of energy absorbed in the red band an estimate of the amount of chlorophyll present in the tissue is possible. Measurements in the infrared band show absorbances due to cellular structure materials. By using this infrared band to quantify bulk leaf absorbance, factors such as leaf thickness can be taken into account in the CCI (Chlorophyll Content Index) value.



Technical Specifications

Measured Parameters: Optical absorbance in two different wavebands.

Measurement Area: 3/8" diameter circle

Accuracy: +/- 1 CCI Unit

Source: (1) Medical grade strict tolerance LED (640nm)
(1) Infrared LED

Detector: Silicon photodiode with integral amplifier for absorbance measurement and source power monitoring for temperature compensation

Storage Capacity: 8,192 Samples

User Interface: 16x2 alphanumeric LCD, 5 keys for control and data manipulation, beep signal for status and warnings

Output: USB 1.1 interface for data transfer.

Temperature Range: 0-50 Deg C

Temperature Drift: Temperature compensated source and detector circuitry for minimum drift over full range.

Power Source: 9V Alkaline Battery

Auto Off Interval: 4 minutes (with no key press or download)

Size: 152(L)x82(W)x25(D)mm

Weight (with battery): 162g



8 Winn Avenue - Hudson, NH 03051, USA
Tel: (603)883-4400 - Fax: (603)883-4410
email: sales@optisci.com - web site: www.optisci.com

Opti-Sciences, Inc. is continuously updating its products and reserves the right to amend its specifications as necessary.

© 2005, Opti-Sciences, Inc.