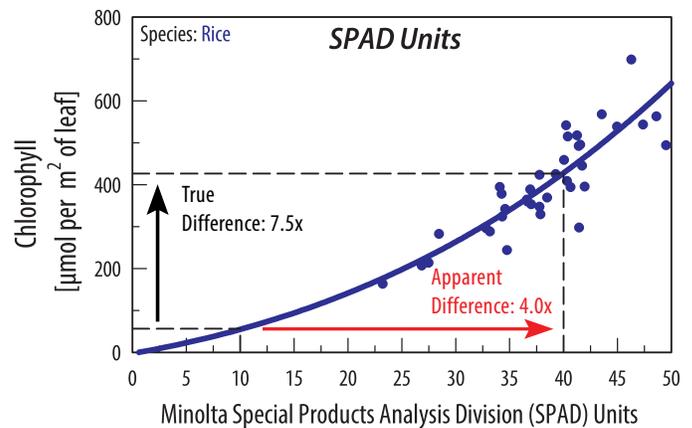
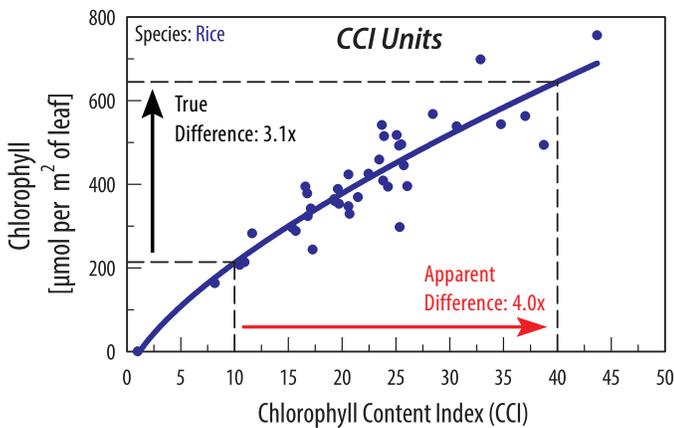




# CHLOROPHYLL CONCENTRATION METER

Apogee Instruments announces a major advance in the non-destructive measurement of leaf chlorophyll concentration. Based on the research of scientists at Utah State University, Apogee has developed an optical meter that outputs an estimate of chlorophyll in units of  **$\mu\text{mol}$  of chlorophyll per  $\text{m}^2$  of leaf surface**. This patent pending meter is a significant improvement over older style meters, which output indexes that are non-linearly related to leaf chlorophyll.



Parry, C., Blonquist Jr., J. M. & Bugbee, B. 2014. In situ measurement of leaf chlorophyll concentration: analysis of the optical/absolute relationship. *Plant and Cell Environment* 37:2508–2520.

## Teaching and Research Applications

Monitoring environmental stress, evaluating efficacy of fertilizer treatments, optimizing harvest schedules, pest control, crop breeding.

## Consistent Readings

The MC-100 uses a larger sampling area to integrate a larger leaf area and provide a more reproducible measurement. A field of view reducer can be used if the leaf width is narrower than the 9.0 mm sample chamber.

## State of the Art Optics

The new meter, optimized for field work, includes state-of-the-art optics with rapid sampling, a large display, and sample memory that can be downloaded to a computer.

**Model MC-100**



|                          | Model: MC-100   |
|--------------------------|---|
| Display Output Unit:     | $\mu\text{mol}$ of chlorophyll per $\text{m}^2$ of leaf surface   |
| Measurement Area:        | 63.6 $\text{mm}^2$ (9.0 mm standard diameter),<br>19.6 $\text{mm}^2$ (5.0 mm diameter with reducer)             |
| Resolution:              | $\pm 10 \mu\text{mol m}^{-2}$ , using the generic equation  |
| Linearity:               | $\pm 1\%$   |
| Repeatability:           | $\pm 1\%$   |
| Sample Acquisition Time: | < 3 seconds   |
| Storage Capacity:        | 8 MB for up to 160,000 data measurements,<br>94,000 data measurements with GPS data entries                     |
| User Interface:          | 50 mm by 15 mm graphic display screen,<br>8 push buttons for control and data manipulation                      |
| Data Output:             | Mini-B USB port provided for main data transfer, RS-232<br>port can be used with GPS for integrated measurement |
| External GPS Option:     | RS-232 port (GPS location data is saved with each<br>measurement)   |
| Operating Environment:   | 0 to 50 C   |
| Temperature Drift:       | Temperature compensated source and<br>detector circuitry over full range  |
| Power Requirement:       | Standard 9 V DC alkaline battery  |
| Dimensions:              | 152 mm length, 82 mm width, 25 mm height  |
| Warranty:                | 1 year against defects in materials and workmanship   |