# The NEW Plant Canopy Imager

## CI-110


### Fast and simple—
### In depth canopy analysis anytime, anywhere

Capture wide-angle plant canopy images while instantly estimating Leaf Area Index (LAI) and measuring Photosynthetically Active Radiation (PAR) levels. The digital, self-leveling camera, updated touch screen, and included filters work together to collect, calculate, and save data in any daylight condition.

New unit with delay trigger release capture and amplified antennae connected to four satellite constellations provide accurate, instant location data along LAI measurements.

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Tools that work where you work.

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The new CI-110 combines hemispherical canopy photography and image analysis with light measurement to non-destructively calculate leaf area index (LAI) and other canopy parameters. The self-leveling digital camera takes 150 degree images of plant canopies for hemispherical photograph analysis. The 24 photosynthetically active radiation (PAR) sensors in the arm of the instrument can be used for an alternative measurement of LAI, to assess current radiation levels of the site, and to evaluate sunflecks. The updated, ergonomic design is paired with a 7" capacitive touch screen, a trigger with delayed image release for crisp images, and the ability to add or exchange filters over the camera lens.

| | |
|---|---|
| Lens | Equidistant wide-angle lens |
| Image resolution | 768 x 494 pixels |
| Interface | USB |
| Measuring time | 0.5 second |
| Fish-eye lens angle | 150° |
| Operating temperature | 5 to 50 °C |
| Probe size | 20 x 20 mm |
| Arm length | 400 mm |
| Probe and arm weight | 0.5 kg |
| Battery capacity | Approximately 6 hours |

## Product Features

- Self-leveling digital camera provides 150° field-of-view image of the plant canopy
- Measures photosynthetically active radiation (PAR) and calculates sunflecks using 24 photodiodes
- Non-destructive calculation of leaf area index (LAI) using images or PAR sensors
- Calculated LAI of plant canopies across multiple size classes; adjustable camera lens focuses for varying canopy heights
- Calculation of canopy gap fraction distribution, leaf angle distribution, and plant canopy extinction coefficients
- No above-canopy reference readings required for gap fraction LAI
- Image and data visible in the field and saved for further analysis
- Full, user-selectable range of zenith & azimuth angles, digitally applied
- User selectable and literature-based thresholding methods, including the Otsu Method and Entropy Crossover Technique
- Performs measurements under any sky condition
- Ability to change images RGB (red, green and blue) color value(s)
- Location acquired via GPS, Glonass, Beidou and Galileo with amplified antenna
- Internal compass for standardizing measurements across locations
- Neutral Density Filters included to optimize images across varying light conditions