

Portable chlorophyll meter

一、Product presentation

The AST-YLS Chlorophyll Analyzer provides real-time measurement of plant chlorophyll content (SPAD units) or 'greenness', enabling precise assessment of actual nitrogen requirements. It helps identify soil nitrogen deficiency or overapplication, improves fertilizer efficiency, and protects the environment by preventing water pollution from excessive nitrogen use.



二、Product Parameter

1. Measurement Range: 0.0-100 SPAD
2. Measurement Area: 2mm×2mm
3. Measurement Accuracy: ±1.0 SPAD units (SPAD values range from 0 to 50 at room temperature)
4. Reproducibility: ±0.3 SPAD units (SPAD values range from 0 to 50)
5. Measurement Interval: Less than 3 seconds
6. Data Storage: SD card
7. Storage Capacity: 2GB
8. Power Supply: 4.2V rechargeable lithium battery
9. Battery Capacity: 2000mAh
10. Weight: 250g

11. Dimensions: 140×85×45mm (length×width×height)

12. Operating/Storage Environment: 0°C-50°C; 85% relative humidity

三、Model features and differences

	Generation (AST-YLS)			
Model	AST-YLS-01 chlorophyll detector	AST-YLS-02 chlorophyll detector	AST-YLS-03 Plant Nutrition Detector	AST-YLS-04 Plant Nutrition Detector
Measurement indicators	chlorophyll	Chlorophyll temperature	chlorophyll, temperature, nitrogen	Chlorophyll, Temperature, Nitrogen, and Water
Data storage	2G			
Export Data	Remove the SD card, insert it into the card reader, then transfer the data to your computer.			
Data browsing	Cannot browse data directly on the device			
Delete data	Cannot delete data saved on the device			
average value	No			
Exported data	text document			
data clustering	Cannot group measurement data from the same blade			

三、 Product Features

Two LED light sources emit two types of light: one is red light (650nm) and the other is infrared light (940nm). Both types of light penetrate the leaves and hit the receiver. The light signals are converted into analog signals, which are then amplified by an amplifier. The analog signals are converted into digital signals by an analog-to-digital converter. The digital signals are processed by a microprocessor, which calculates the SPAD value and displays it on the LCD screen.

1. The calibration and calculation of the measurement value of chlorophyll meter. Two LEDs are ordered to emit light, the received light is converted into electrical signal, the ratio of light intensity is used to calculate.
2. After the sample is clamped by the pressure head, the two LEDs light up again, and the light transmitted by the blade is projected onto the receiver, which is converted into an electrical signal, and the intensity ratio of the transmitted light is calculated.
3. The values from steps 1 and 2 are used to calculate the SPAD measurement, which indicates the current relative chlorophyll content of the sampled leaf.