

# Измерители хлорофилла SPAD-502Plus

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# Chlorophyll Meter SPAD-502Plus

The SPAD-502Plus is a portable, non destructive measuring device for the chlorophyll content of leaves widely used to optimise the timing and quantity of fertiliser to improve crop yields.



## Introduction

### **Non-destructive measurement of plant chlorophyll**

The SPAD-502Plus enables quick, easy measurement of the chlorophyll content of plant leaves without damaging the leaf. Chlorophyll content is one indicator of plant health, and can be used to optimize the timing and quantity of applying additional fertilizer to provide larger crop yields of higher quality with lower environmental load.

## Features

### **Quick, easy measurement of chlorophyll levels in plant leaves without damaging the leaf**

Measurements are taken by just closing the measuring head on the leaf. Since the leaf is not cut off or damaged in any other way, the same leaf can be measured as the plant grows.

### **Trend graph display**

Up to 30 measurements can be stored in memory and displayed on a trend graph, so that changes in measurements over time can be seen and abnormal values can be noticed at a glance.

### **Water-resistant**

The SPAD-502Plus is water-resistant (IPX-4) so it can be used outdoors even in the rain.

\* It is not immersible, and should not be washed with water.

Compact and lightweight for portability

The SPAD-502Plus is small enough to fit in a pocket and weighs only 200g, so it can be taken anywhere.

Low power consumption

The SPAD-502Plus uses LED light sources, resulting in extremely low power consumption, with approximately 20,000 measurements from one set of fresh alkaline-manganese batteries.

Principal Applications

Monitoring of growth and health of plants

The SPAD-502Plus can be used to monitor the growth and health status of a wide variety of agricultural products, including wheat, rice, corn, cotton, etc.

Nitrogen fertilization optimization

The SPAD-502Plus can be used for determining when and how much nitrogen fertilizer should be provided to plants. Optimizing fertilization in this way leads to not only greater yields of higher quality, but also results in less over-fertilization, reducing environmental contamination due to the leaching of excess fertilizer into the soil and underground water.

Specifications

Principal Specifications SPAD-502Plus

| Type                    | Chlorophyll Meter SPAD-502Plus                                 |
|-------------------------|----------------------------------------------------------------|
| Measurement subject     | Crop leaves                                                    |
| Measurement method      | Optical density difference at 2 wavelengths                    |
| Measurement area        | 2 mm × 3 mm                                                    |
| Subject thickness       | 1.2 mm maximum                                                 |
| Subject insertion depth | 12 mm (with stopper having position adjustable from 0 to 6 mm) |
| Light source            | 2 LED elements                                                 |
| Receptor                | 1 SPD (silicon photodiode)                                     |

|                                              |                                                                                                                                                                          |                                                                         |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| <b>Display</b>                               | LCD panel showing 4-digit measurement value (values shown to first decimal place) and 2-digit number of measurements; Trend graph of values in memory can also be shown. |                                                                         |
| <b>Display range</b>                         | -9.9 to 199.9 SPAD units                                                                                                                                                 |                                                                         |
| <b>Memory function</b>                       | Memory capacity for up to 30 values; Calculation/display of average of data in memory also possible                                                                      |                                                                         |
| <b>Power source</b>                          | 2 AA-size alkaline batteries                                                                                                                                             |                                                                         |
| <b>Battery life</b>                          | More than 20,000 measurements (when using new alkaline batteries under Konica Minolta test conditions)                                                                   |                                                                         |
| <b>Minimum interval between measurements</b> | Approx. 2 seconds                                                                                                                                                        |                                                                         |
| <b>Accuracy</b>                              | Within $\pm 1.0$ SPAD units (for SPAD value between 0.0 and 50.0 under normal temperature/humidity) “*” added to display when measurement exceeds 50.0 SPAD units        |                                                                         |
| <b>Repeatability</b>                         | Within $\pm 0.3$ SPAD units                                                                                                                                              | For SPAD value between 0.0 and 50.0 (with no change in sample position) |
| <b>Reproducibility</b>                       | Within $\pm 0.5$ SPAD units                                                                                                                                              |                                                                         |
| <b>Temperature drift</b>                     | Within $\pm 0.04$ SPAD units/ $^{\circ}\text{C}$                                                                                                                         |                                                                         |
| <b>Operating temperature/humidity range</b>  | 0 to 50 $^{\circ}\text{C}$ ; Relative humidity of 85% or less (at 35 $^{\circ}\text{C}$ ) with no condensation                                                           |                                                                         |
| <b>Storage temperature/humidity range</b>    | -20 to 55 $^{\circ}\text{C}$ ; Relative humidity of 85% or less (at 35 $^{\circ}\text{C}$ ) with no condensation                                                         |                                                                         |
| <b>Size; Weight</b>                          | 78 ( W ) $\times$ 164 ( H ) $\times$ 49 ( D ) mm、200g ( excluding batteries                                                                                              |                                                                         |
| <b>Other</b>                                 | Warning buzzer; User compensation factor                                                                                                                                 |                                                                         |
| <b>Standard accessories</b>                  | Depth stop; Strap; 2 AA-size alkaline batteries; Soft case; Reading checker                                                                                              |                                                                         |

Specifications and appearance subject to change without notice.

Company names and product names herein are trademarks or registered trademarks of their respective companies.

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