

clorofiLOG

ELECTRONIC CHLOROPHYLL CONTENT METER

Analysis of the nutritional status of the plant instantly

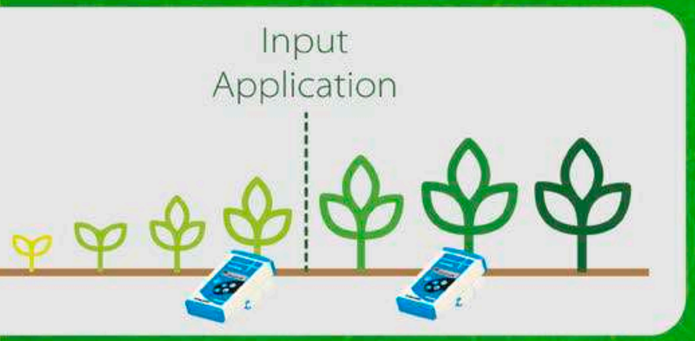
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Chlorophyll

Chlorophyll is the pigment that gives plants a green color and is essential for photosynthesis, therefore for plant life. It is from photosynthesis that the plant obtains energy to grow, develop leaves and fill grains.

Why is it **important to measure the chlorophyll content**?

To monitor and correct fertilization according to the real needs of the plant during its development. The chlorophyll content is proportional to the nitrogen absorbed by the plant, which is one of the three fundamental nutrients in agriculture. Thus, measuring the chlorophyll content is an indirect way of measuring the absorption of nitrogen, a nutrient of fundamental importance for crop productivity.



Chlorophyll content is also a good indicator of plant health

Cultures where it is essential to monitor the chlorophyll content

The Chlorophyll Content Index can be used **widely in the most varied cultures, in order to optimize the use of nitrogen**, according to the need of the plant, **increasing productivity and decreasing costs**.

Recommended use to:

- **Standardize field development by adjusting nitrogen fertilizer doses**
- **Establish calibration curves to reach maximum potential in specific cultivars**
- **Fertilization recommendations after establishing reference areas and sufficiency indices**
- **Confirm suspicions of nitrogen deficiencies not detectable visually**

- Corn
- Winter Cereals
- Bean
- Soy
- Rice
- Cotton
- Vegetables
- Sugar Cane
- Coffee
- Tobacco
- Grassland
- Fruit
- Cassava and Potato
- Seedling Production

Establishing a local reference, indicative for the crop of interest is the safest method for interpreting the measurements. Creating small reference areas in the field is simple.

The principle is to create reference areas with a large amount of N, enough to make sure that the plants do not suffer from N deficiency and develop the maximum concentrations of chlorophyll.

The area chosen for reference must be representative of the crop, not being subjected to excessive stress, such as great competition with weeds or headwaters with great soil compaction. They can be small areas manually fertilized or strips with extra fertilization. Fertilize these areas with those slightly higher ranges than the needs of the crop determined by agronomic manuals should be used.

When opting for areas, there should be at least two per plot, with approximately 5 m^2 each. In the case of stripes, they must be between 3 and 5 per field.

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clorofiLOG is an equipment that that optically measures the chlorophyll content in the leaves of plants optically. Chlorophyll characteristically absorbs light at some wavelengths. Analyzing this absorption, it is possible to determine the chlorophyll content.

Measurement is fast

Just hold the leaf inside to the equipment's optical sensors for a few seconds.



Simple interface

clorofiLOG is an easy-to-use instrument, with an interface designed to facilitate field work. Measurements can be viewed instantly or stored for analysis on the computer.



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The benefits of clorofiLOG

Fast, accurate and non-destructive measurements

With **exclusive technology**, clorofiLOG analyzes 3 light frequency bands, allowing **detailed analysis and obtaining fast and accurate measurements**. The results have a high correlation with the values of laboratory analysis, with the advantage of being obtained in the field **instantly and can be done continuously on the same leaf, in order to follow the development** of the plant.

Agility in decision making

Measuring the chlorophyll content with the **live plant, without damaging it and quickly, the clorofiLOG allows a monitoring of the nutritional status of the plant during its development**, not just between one crop and another. In this way, **the producer can make decisions before more serious effects occur**. This is very useful, for example, for annual crops, such as wheat, corn, rice and others, or even for semi-perennial crops, such as sugar cane.

Possibility of **input savings**

The chlorophyll content in the leaves of the plant is proportional to the amount of nitrogen it has absorbed. Thus, **with clorofiLOG it is possible to know the areas of the crop that are nitrogen deficient and correct the fertilization**. Additionally, it is possible to **know where the nitrogen levels are already satisfactory and to avoid waste with unnecessary fertilization**. Thus, the farmer can have great savings in nitrogen fertilizers, as he only applies the correct dose according to the plant's needs. **No more, no less**.



Concern with the **environment**

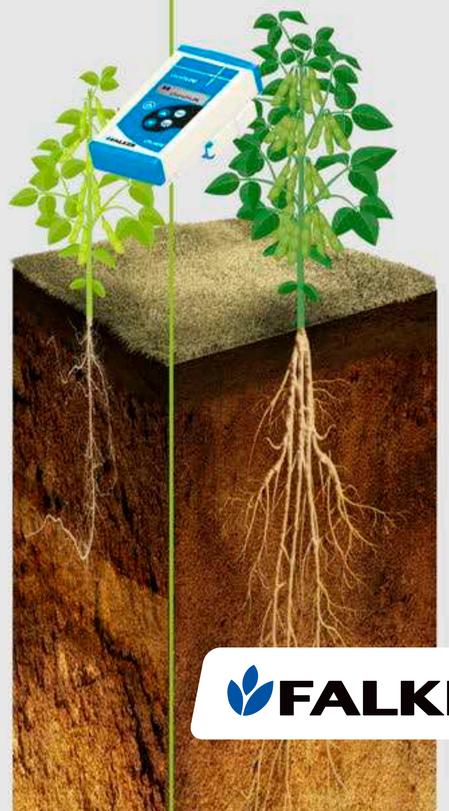
One of the impacts caused by a careless agriculture is the high nitrate loads in the rivers. Therefore, it is important to make a rational use of fertilizers, avoiding waste that is not used by plants and can end up contaminating soils and rivers. **With clorofiLOG the producer can dose the right amount of fertilizer in the field, reducing the impact on the environment**.

Use in the Sale of Inputs

Some special inputs are difficult to show the results to the producer with the naked eye. With clorofiLOG, it is possible to make numerical analyzes and comparisons of the results, without the need for laboratory analysis

Easy follow-up on technical visits

Witness | Applied Input

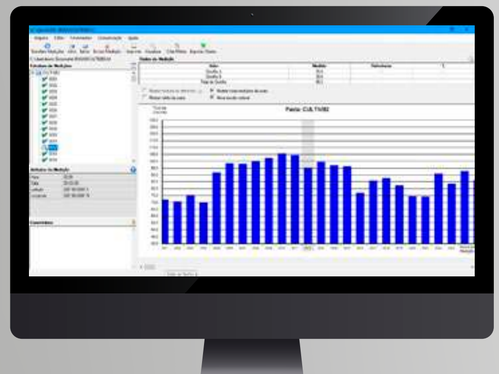


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Technical Specifications

	CFL1030
Measurement Scale	0 to 100 ICF
Measurement Resolution	0.1 ICF
Duration of a measurement	2s
Memory Capacity	Up to 3000 measurements
Reception Area	9 mm^2
Temperature Compensation	Yes
Operating Temperature	0 a 50ºC
Energy Source	2 AA alkaline or rechargeable batteries
User Indicators	LCD Display 2 Lines x 16 characters Sound Indication
Keys	4 for operation, 1 on / off
Equipment weight	350g
Communication Protocol with GPS Receiver	NMEA 0183, 4800 bps
PC communication	USB or Serial

Note: for the calculation of the ICF, the levels of chlorophyll of types A and B are considered, possible by combining the results of measurements at different wavelengths.



Software

The data collected with clorofiLOG can be transferred to a computer, with the help of software that comes with the product.

The software is easy to use and allows data to be visualized graphically or numerically and exported for use in other programs.

Included Items

- clorofiLOG 1030
- Protective Case
- Leaf Stopper
- Safety Handle
- USB Communication Cable
- 2 AA alkaline Batteries

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