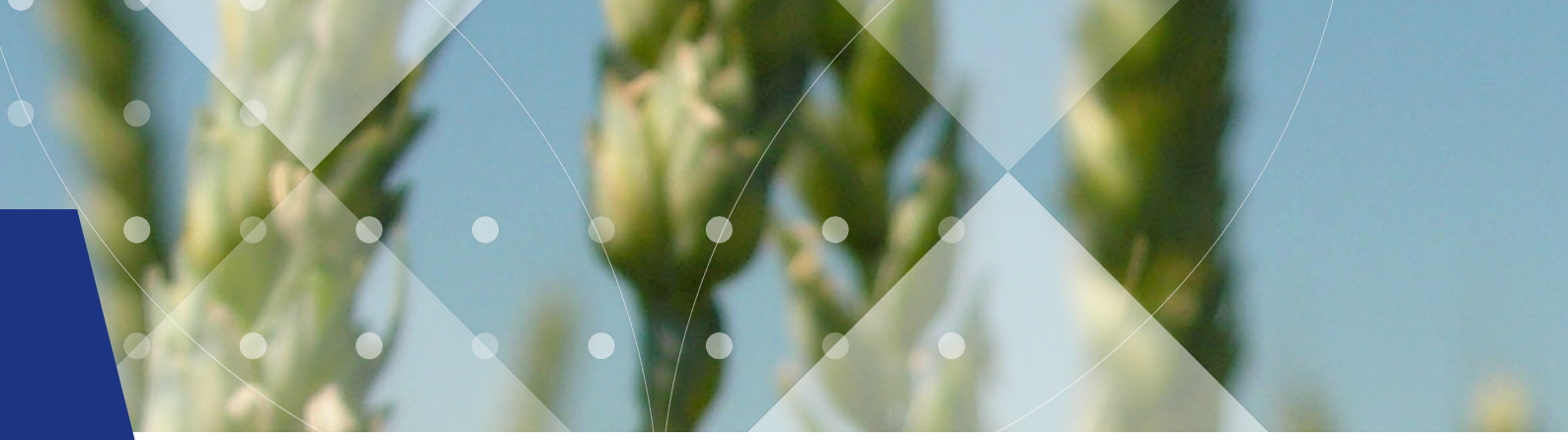
eurofins

Fertilization Manager

A comprehensive overview of your soil

Testing for Life

soil-health-solutions.com



Fertilization Manager

Holistic soil analysis, with fertilization guidelines.

In Fertilization Manager you will find an overview of:

- Physical, biological and chemical characteristics, as well as carbon characteristics.
- The essential main and micronutrients.
- Plant available nutrients, soil stock nutrients, as well as the supply capacity are given.
- The crop-based fertilizer recommendation is displayed as an annual application. It is available for over 300 crops and, if known, also for specific crop varieties.
- The soil-based fertilizer recommendation is designed to improve or maintain soil nutrient status, thereby improving the yield potential of the field.
  There are soil-based recommendations for the nutrients P, K, Ca and Mg and for organic matter, pH and soil structure.
- Fertilization Manager can be used for grassland, maize land, arable land, field vegetables, fruit growing, bulb cultivation and tree cultivation; in short: for all open cultivation.
- Fertilization Manager reports the analysis results in kg per ha in the sampled layer.

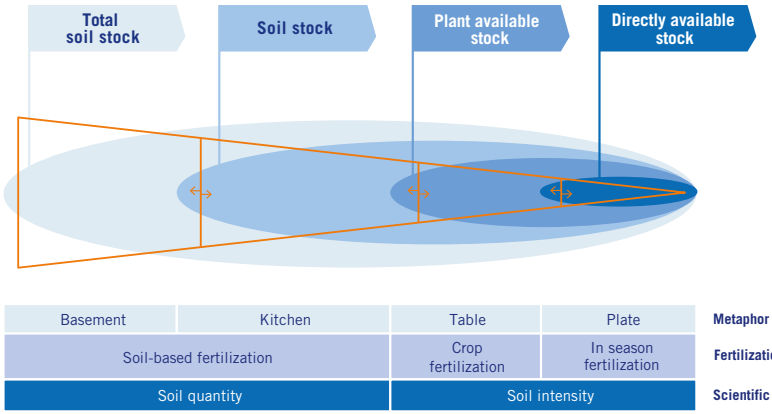
Infographics

In addition to the fertilization advice, Fertilization Manager offers infographics about:

- The organic matter balance: how to maintain and improve the level of soil organic matter.
- The quality of the organic matter.
- The soil type (texture triangle), both for peaty soill (peaty sand / clay and clay peat and peat) and for mineral soils (sand / clay / loess).
- Guidelines for improving soil structure (soil structure triangle).
- The water holding capacity of your soil: a pF curve with information about the maximum irrigation for your crop.

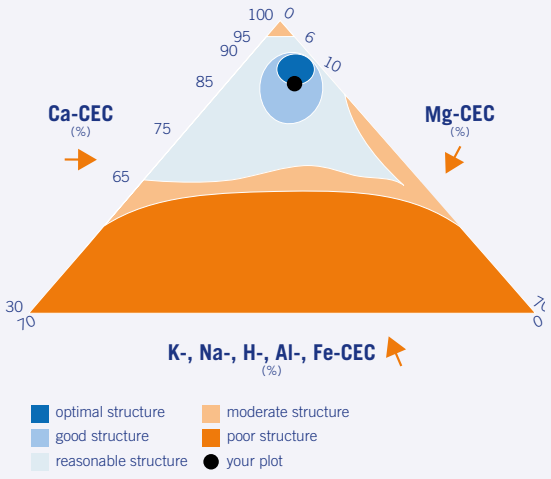
Are the nutrients available to the crop?

To give more insight into the functioning of the soil, Eurofins reports on different soil nutrient fractions. The food can be present on the plate (directly absorbable), on the table (available), in the kitchen (soil stock) and in the basement (total soil stock).



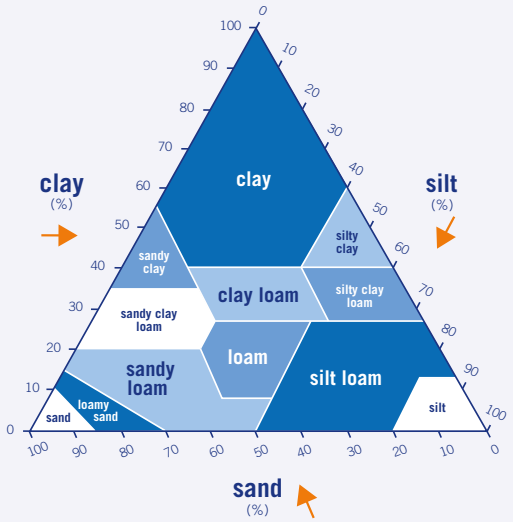
The quantity and quality of the organic matter

Fertilization Manager reports on soil organic matter (SOM). An improved SOM status will reflect in improved soil workability, less risk of erosion and soil slaking, and more supply or cations like K, Mg and Ca. Part of its benefit comes from its breakdown; soil organic matter is food for soil life and through mineralization N, S and some P will become plant available. Soil organic matter consists mainly of C, N, S and P. More carbon (C) in the soil, means less carbon in the atmosphere (CO_2). Improved soil carbon status will slow down climate change according to the Paris Climate Agreement (2015).



Structure triangle provides insight into CEC

An optimal soil structure is invaluable. Soil with a good structure is easily workable, provides sufficient moisture and does not slake with heavy rainfall. A bad structure can be the result of a deficiency of calcium at the clay humus complex. Fertilization Manager provides insight into the relationshipbetween Ca, K and Mg in the soil via the unique 'structure triangle'. Fertilization Manager takes the CEC into account for this. CEC is the acronym for Cation Exchange Capacity. The CEC can be occupied with Ca, Mg, K, Na and to a lesser extent with NH4+, Al, Fe, Mn and H.

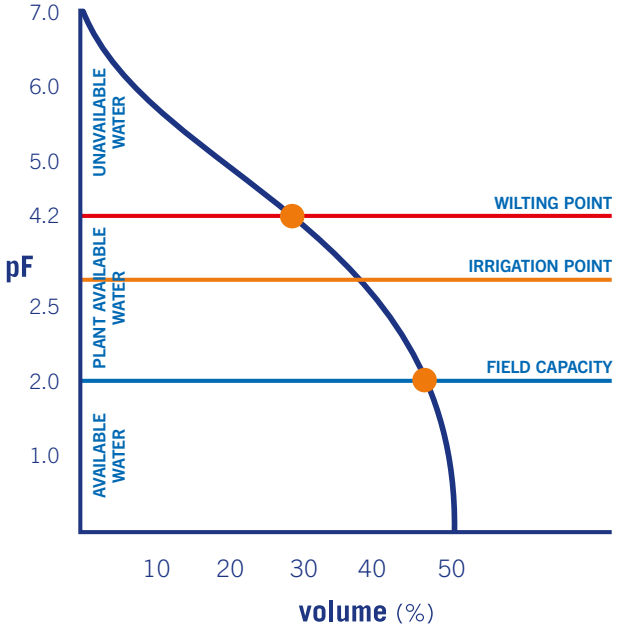


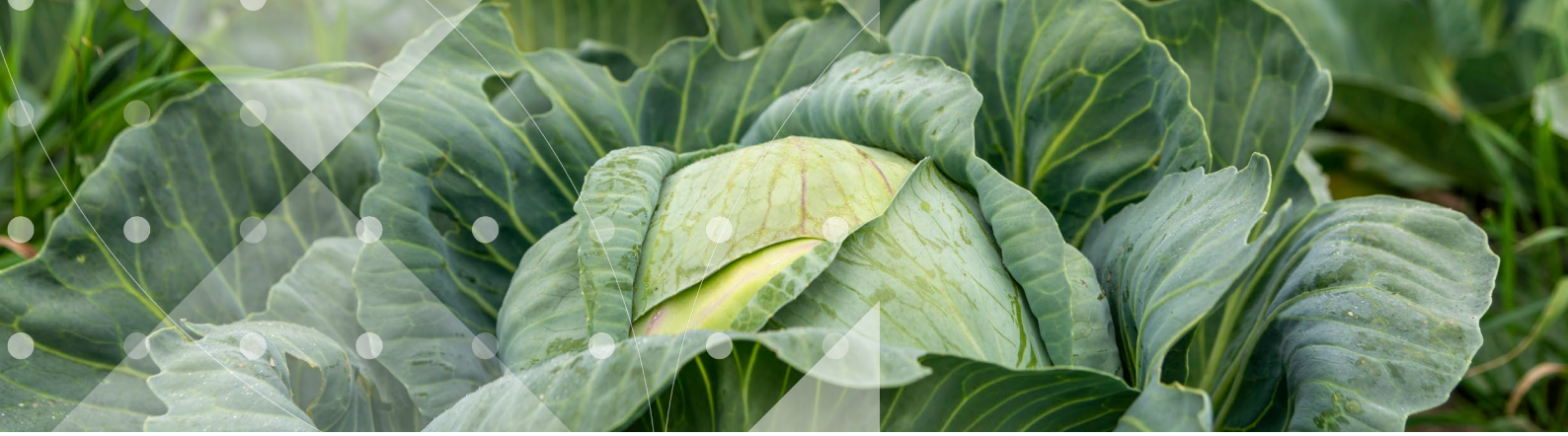
Your soil type in the texture triangle

Every agricultural entrepreneur knows approximately the soil type in his fields. But what is it exactly? Is it pure clay, light clay, sand, loamy sand, sandy loam or silty loam? And how do the fields, or areas of the same field differ? More or less sand, clay or silt in a field can cause major differences in workability and other properties. The texture of your soil can be seen at a glance on the analysis report by the position of the blue dot on the texture triangle. The risk of slaking and wind erosion is also mentioned.

Calculate the maximum irrigation for your crop

During spells of dry weather, field irrigation can provide a solution. This prevents growth retardation and yield loss. However, irrigation is very expensive. The pF curve is a unique tool to improve the efficiency of irrigation, on a field by field basis. Using the pF curve, you can calculate how many millimeters of irrigation are required. If you irrigate more than is required, the water will drain from the field or seep to deeper layers where it cannot be easily accessed by your crop. This can also cause environmental problems, as nutrients and chemicals can then enter local water systems. By comparing the pF curves of different fields you can see which fields are the most drought-sensitive. The result is that you will save water and fuel and protect the environment.





Chemical

Macronutrients

- N-total
- C/N-ratio
- N-supplying capacity
- S-total
- C/S-ratio
- S-supplying capacity
- S-available
- P-stock (P-Al)
- P-available
- K-stock
- K-available
- Mg-stock
- Mg-available
- Ca-stock
- Ca-available
- Na-stock
- Na-available

Micronutrients

- Si
- Fe
- Zn
- Mn
- Cu
- Co
- B
- Mo
- Se

Physical

- pH
- Organic matter
- Organic carbon
- Carbonated lime
- Risk of soil slaking
- Crumbling
- Risk of soil erosion
- CEC
- Ca-saturation%
- Mg-saturation%
- K-saturation%
- Na-saturation%
- H-saturation%
- Al-saturation%
- CEC-saturation%

Biological

- Microbial biomass
- Microbial activity
- Fungal-to-bacteria ratio

Infographics

Texture triangle

Structure triangle

Organic matter balance

Organic matter quality

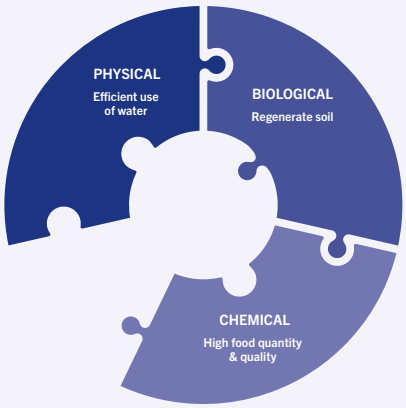
pF-curve

Recommendations

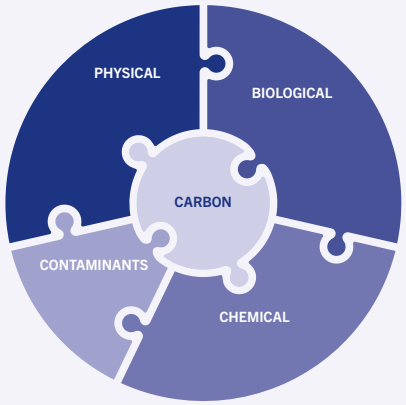
- Soil-based fertilizer recommendations
- Crop-based fertilizer recommendations

Soil life parameters

The biological component relates to the diversity, abundance and interactions of living organisms in the soil. These determine nutrient transformations, the disease suppressive capacity of the soil, and the organic matter content. A healthy soil contains millions of micro-organisms, such as fungi and bacteria. With Fertilization Manager we measure the microbial biomass, microbial activity and fungal-to-bacteria ratio.



Fertilization Manager provides insight in the chemical, biological and physical aspects of soil.



Fertilization Manager is part of the Soil Health Solutions from Eurofins. Providing insight into optimal soil health, including water holding capacity, soil biodiversity, essential nutrients, carbon storage and potential pollution.

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