



Farm Management





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The Group

Diagram was established in 2024 through the transformation of the IBF Servizi SpA Group and the acquisitions of Agronica Srl, Abaco SpA, Agriconsulting SpA, and Netsens Srl.

It is a leading Italian and European company in the digitalization of services dedicated to the agri-food sector, in the development of farm management software and in the management of processes for delivering, monitoring and controlling environmental and agricultural support programs.

As a partner to major Governments across Europe, it supports Public Administrations, farms, banks and insurance institutions and the agri-food industry with the goal of promoting social, economic, and environmental sustainability.

Today, the company is owned 41.6% by CDP Equity, 41.6% by Trilantic Europe, and 15% by BF International.

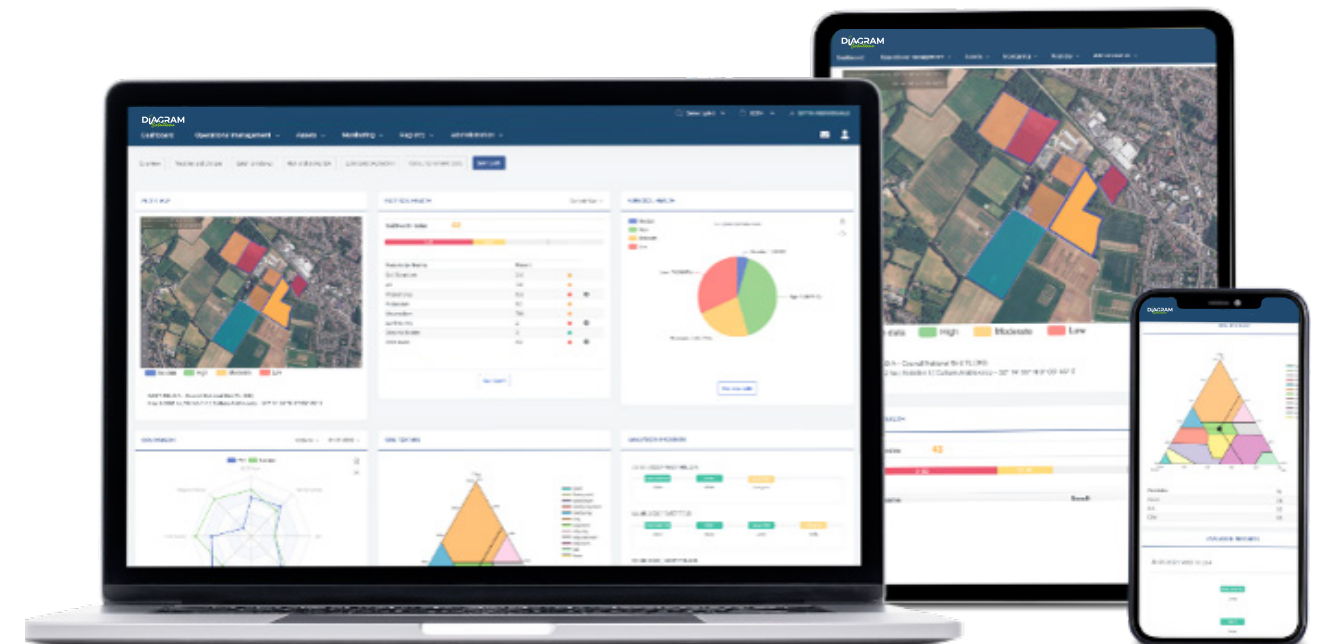
Introduction

A solution that provides all the tools needed to make the supply chain more efficient and sustainable, through precision farming, proximity sensors, satellite data and chemical and physical analysis of the soil.

The solution integrates multi-temporal satellite data, proximity sensors (weather stations, soil sensors, smart traps), certified chemical-physical analyses and agronomic forecasting models into a single digital ecosystem. All data is normalised and integrated into the platform to generate operational maps, decision support systems (DSS) and measurable and certifiable sustainability indicators.

We support companies in their efforts to draw up sustainability reports and obtain the main international certifications:

- LCA
- GHG
- Carbon footprint
- ISCC
- Water footprint
- EUDR



THE NEEDS WE MEET

- Digital management of the Treatment Register
- Management and optimisation of all production factors, from seeds to agrochemicals, from nutrients to water and fuel
- Management and optimisation of audits/data collection relating to major certifications and obligations arising from social, environmental and economic sustainability
- Accurate monitoring of soil health characteristics
- Monitoring of crop health
- Management and savings in costs and time related to crop operations

Features

- ELECTRONIC TREATMENT REGISTER
- DECISION SUPPORT (DSS DEFENCE AND PRECISION MAPS)
- REPORTING (AGROCHEMICALS, CO2, SOIL EROSION)
- WATER MANAGEMENT (WATER BALANCE)
- SOIL AND CROP HEALTH MONITORING



Our Methodology

Our approach follows a structured cycle that starts with an analysis of the business context, continues with multi-source data collection, generates operational actions through prescription maps and DSS, and concludes with objective measurement of the economic, agronomic and environmental benefits.



FARMER'S
FIELD NOTEBOOK

The electronic processing register provides access to company records, fields and crops, with the option of graphical crop plans and a top view approach using Google GIS mapping. The system integrates data from satellite monitoring, DSS defence and forecasting models, enabling fully traceable and audit-ready agronomic management, with correlation between technical decisions and production results.

Warehouse management

- Agrochemicals
- Printing of agrochemical warehouse register

Management of plant protection treatments

- Pest control
- Weed control

Treatment checks

- Compliance with label instructions
- Compliance with dosage instructions
- Compliance with maximum number of treatments specified on the label and PPE
- Interval between treatments with the same product
- Compliance with the maximum dose per hectare per treatment and per year
- Possibility of performing retroactive checks and verifications thanks to the historical database
- Control of waiting period
- Admissibility in open fields or greenhouses
- Compliance with the number of treatments provided for by the label and PPE

Calculation of explicit cultivation costs for each crop

- Cost per cultivation operation
- Hourly cost of labour and machinery
- Cost of technical equipment/products (with weighted average cost)
- Explicit costs per hectare and per production unit
- Total explicit costs

Direct access to labels and safety data sheets: current and historical

Regional disciplinary controls on integrated production and related exemptions

Warehouse management of all technical resources

- Fertilisers, auxiliaries, consumables
- Printing of warehouse registers for all technical resources

Fertilisation management

- Fertilisation plans
- Control of maximum NPK inputs, by period and by individual fertilization
- Printouts

Irrigation data management

with the option to create irrigation plans

Management of all cultivation operations

Compliance and printing

- Integrated production
- EC Regulation 1698/05 EAFRD
- Global G.A.P. certification
- SQNPI certification
- Cross-compliance

Prints and organic farming controls

- Verification of authorised active substances
- Prints and controls in accordance with EU Reg. 848/2018

On request:
NMP module: management of spreading in accordance with Nitrates Directive

Prescription maps

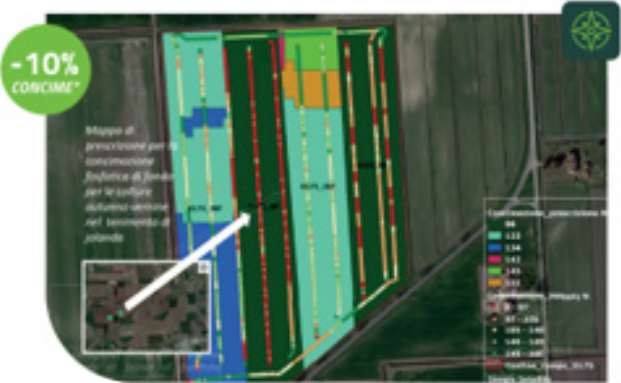
Sowing

Variable rate sowing maps allow you to adjust density according to the production potential of different areas, reducing oversowing and improving emergence uniformity. They allow you to optimise inputs and operating costs by monitoring historical and forecast weather data.



Fertilisation

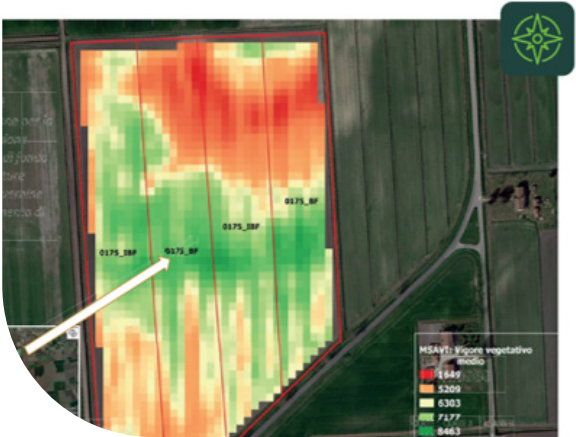
Variable rate distribution improves nutrient use efficiency (NUE), reduces leaching losses and optimises the input-yield ratio. The maps allow you to optimize inputs and operating costs. In the nutrition plan, the fertiliser doses are defined, either fixed or variable, for both the pre-sowing and top-dressing phases. The variable rate application system allows you to optimise the fertiliser dose according to the crop's needs, thus avoiding over-fertilisation and reducing the environmental impact of the fertiliser.



Vegetative monitoring

The integration of NDVI and MSAVI vegetation indices with weather and soil data allows for the dynamic refinement of nutrition and defence strategies throughout the entire crop cycle.

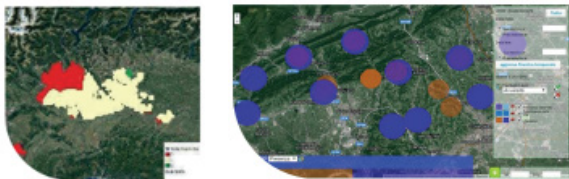
- Verify crop presence
- Check for anomalies due to climatic events and/or unexpected harvests
- Identify critical areas
- Identify qualitative variability within fields
- Evaluate the performance of different plots over the years and with different crops
- Integrate vigour indices into the fertilisation plan
- Monitor the development of the crop



Decision Support System

DSS, Decision Support Systems, are fundamental for managing the supply chain efficiently and effectively, making targeted decisions.

The predictive models integrate real-time climate data, soil characteristics, varieties, sowing density and vegetative vigour, generating dynamic risk indices and operational thresholds that allow targeted interventions only when necessary. Each intervention is tracked on the platform and can be correlated with weather trends, pathogen pressure and production performance.



CULTURE	DSS
Almond	Brown rot, Rust
All direct-seeded arable crops	Seeding rate
Apple	Aphids, Codling moth, Fire blight, Leafroller (Eulia), Apple scab, Oriental fruit moth
Arable crops	Nutrition – Nitrogen (Static and Dynamic), Nutrition – Phosphorus and Potassium (Static), Yield potential
Barley	Rust complex, Fusarium head blight, Powdery mildew, Septoria leaf blotch
Cherry	Leaf curl, Cherry leaf spot (Cylindrosporiosis), Coryneum blight (Shot hole), Brown rot, Black rot of stone fruits, Powdery mildew, Thrips
Durum wheat	Rust complex, Fusarium head blight, Powdery mildew, Septoria leaf blotch
Grapevine	Anthrachnose, Gray mold, Powdery mildew, Downy mildew, European grapevine moth

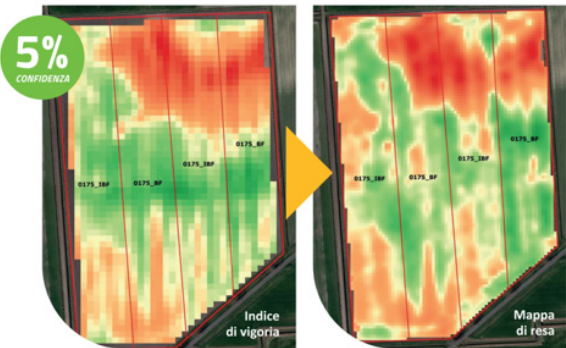
Kiwi	Bacterial canker, Leafroller (Eulia)
Maize	Cercospora leaf spot, Northern corn leaf blight, Fusarium ear rot, Mycotoxins, Downy mildew, European corn borer
Olive	Anthrachnose, Olive fruit fly, Peacock spot
Pear	Codling moth, Fire blight, Leafroller (Eulia), Brown spot, Pear scab

Profitosan

The solution is integrated with Profitosan®, the Plant Protection Products Database, a reference tool for all agri-food operators. Updated daily with information certified by a team of experts, it provides constantly updated data. Available both on APP and on the Web, it is easy and intuitive to consult.

Yield estimation

Estimation of extensive crop yields through analysis of historical vegetation indices between sowing and harvesting combined with analysis of weather patterns, with a focus on critical phenological stages.



Provision of irrigation advice based on estimates of soil water content and crop requirements.

- Installation of sensors and weather stations to measure real-time values relating to soil moisture, temperature, wind speed, etc.
- Water balance monitoring
- Remote estimation of soil moisture using SAR

Irrigation advice

The water balance integrates data from IoT weather stations, multi-depth soil moisture sensors and evapotranspiration models, generating irrigation recommendations based on real data and climate forecasts.

WATER SAVINGS WITH IRRIGATION ADVICE

Spring crops	Grain legumes	Industrial crops	Horticultural crops
10-18%	10-18%	18-25%	10-18%

Average savings results

Sustainability

The solution enables the supply chain to collect the parameters needed to assess the sustainability of practices implemented along the supply chain. The platform enables the structured extraction of data relating to agronomic inputs (molecules, fertilisers, water, fuel) at field, company or supply chain level, making processes fully compatible with international audits and certifications. We develop specific projects to monitor and increase the sustainability of all agri-food companies helping them to draw up their Sustainability Reports.

- Use of water resources
 - Use of molecules (pesticides and fertilisers)
 - Carbon storage in the soil
- Analysis, chemical and physical composition of the soil
 - Monitoring of fuel consumption



PLATFORM FEATURES:

- Manage organic carbon storage
- Perform erosion analysis for prospective crop planning
- Determine soil suitability based on chemical and physical composition
- Monitor water balance
- Determine soil erosion
- Analyse the chemical and physical characteristics of the soil to determine suitability and crop planning
- Determine and extract data at any level of detail on inputs into the soil, i.e. molecules and fertilisers, nutrients, water and fuel

All data collected is archived and interoperable with business management systems via API, ensuring operational continuity and integration with existing digital ecosystems.

Erosion index

Soil erosion by water is one of the main threats to soils, with a negative impact on ecosystem services, agricultural production, drinking water and carbon reserves. The main factors influencing soil erosion rates by water are rainfall, soil type, topography, land use and management.

Available Platform Data:

- Average annual soil loss in the long term
- Average annual rates of soil loss due to erosion determined by five different factors (rainfall, morphology, pedology, vegetation cover, anti-erosion practices)
- Synthetic soil erosion risk index calculated using the rate of soil loss due to erosion expressed in eroded mass (t) per hectare per year, based on observations over the last 20 years

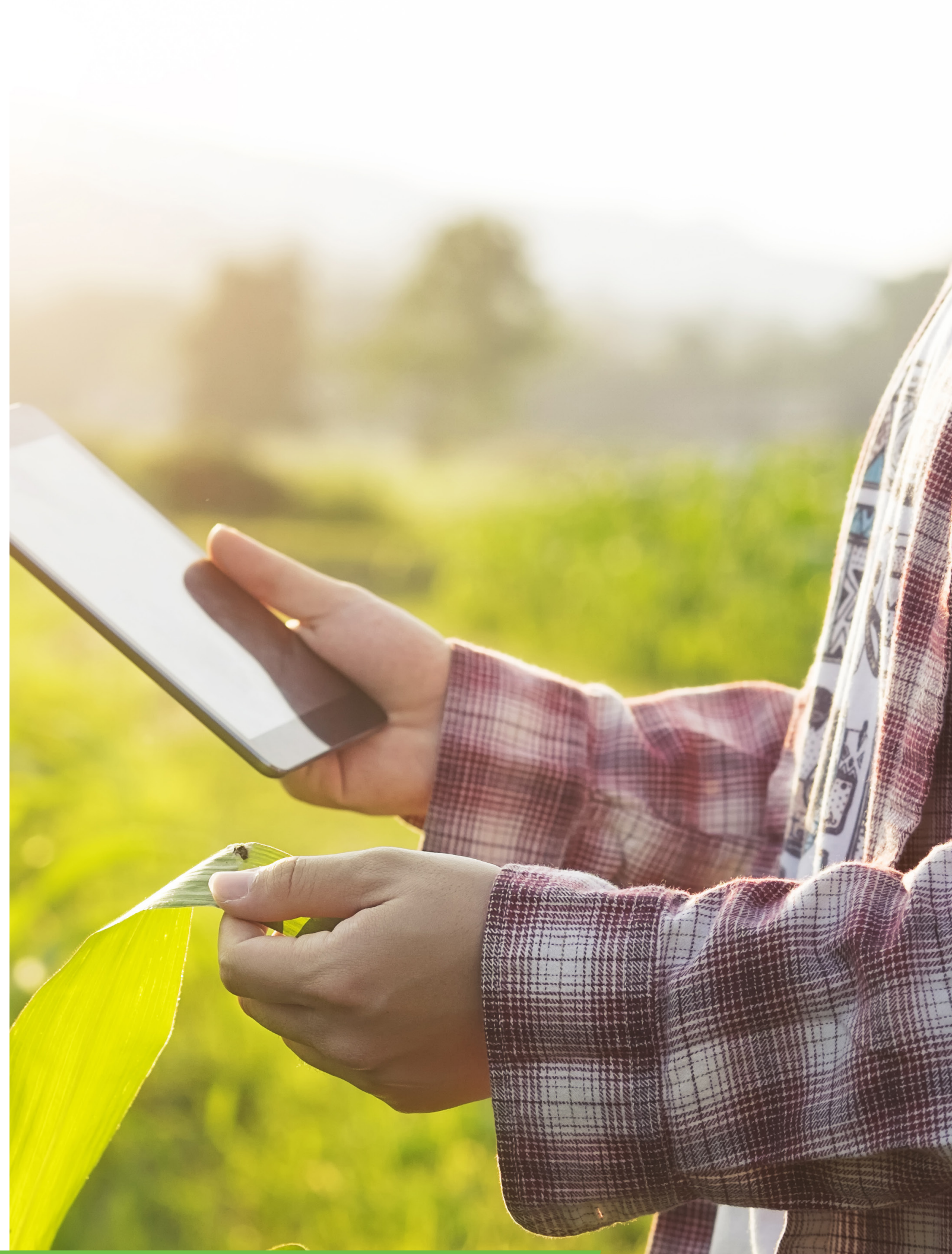
The synthetic erosion risk index is calculated on a multi-year basis by combining climatic, morphological, pedological and management factors, supporting conservative crop planning and soil protection.

CO2 Index

The soil organic carbon index represents the amount of organic carbon stored in the soil (SOC). Soil carbon sequestration refers to the process of capturing atmospheric carbon dioxide (CO₂) and storing it in the soil, which helps mitigate climate change by reducing the concentration of greenhouse gases in the atmosphere. The organic carbon index is calculated from remotely sensed data, estimating the organic carbon content using data from Landsat (5, 8 and 9) and Sentinel 2 satellites, together with information obtained from sampled points.

Monitoring organic carbon in the soil makes it possible to assess the contribution of agronomic practices to CO₂ sequestration, generating indicators that can be used in sustainability reports and carbon farming projects.

The indicator returns the amount of organic matter present in the soil expressed in t/ha/year.



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