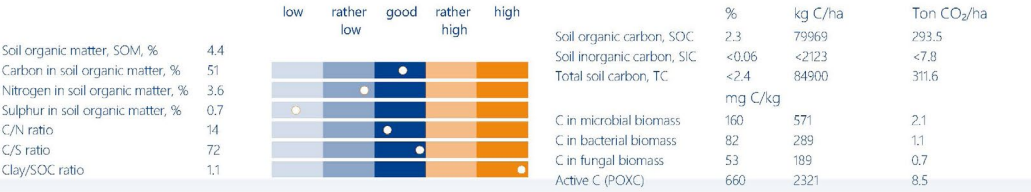


Carbon Storage



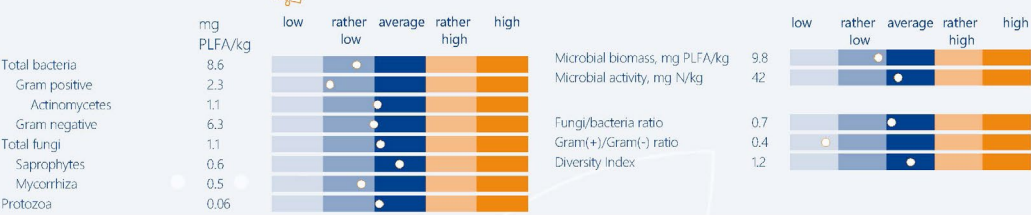
Beat climate change



Soil Biodiversity



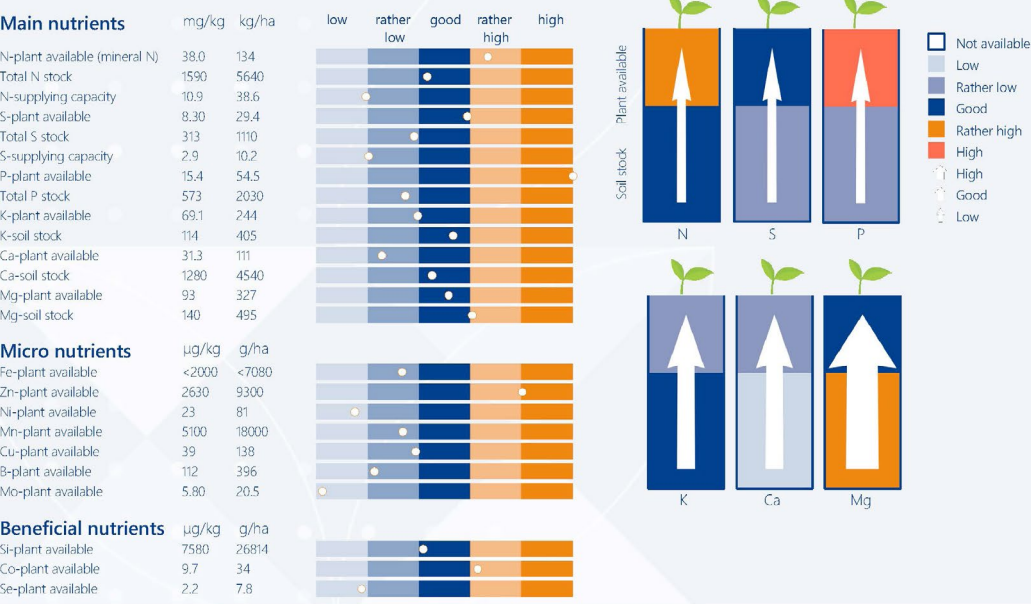
Regenerate soils



Essential nutrients



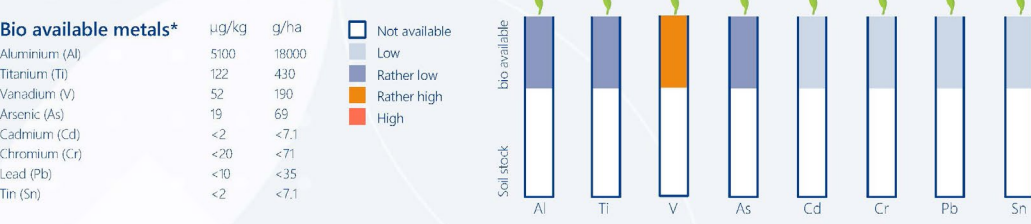
High food & feed quantity & quality



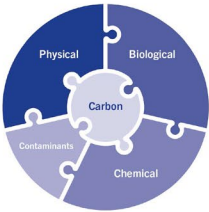
Potential contaminants



Prevent health risks

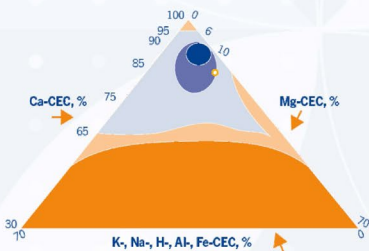
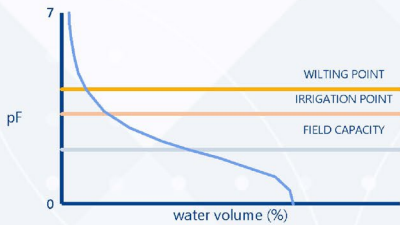


Soil Health Indicator is part of Eurofins Soil Health Solutions. The healthier the soil, the better the contribution to Sustainable Development Goals.



A B C D E

The Foundation



Prudent use of water and nutrients

Soil composition

Clay	3
Silt	11
Sand	82
Carbonate lime (CaCO ₃)	<0.5
Soil organic matter (SOM)	4.4

pH

		low	rather low	good	rather high	high
pH _{CaCl2}	5.5					
pH _{water}	6					

Soil structure

	Score					
Risk soil slaking	7.9					
Risk on wind erosion	5.3					
Risk soil structural degradation	10					

Soil density

	g/cm ³					
Soil bulk density	1.4					

Salt indices

Na-plant available, mg/kg	<7.5					
Na-soil stock, kg/ha	49					
Electrical conductivity (EC), mS/cm25°C	0.18					
Exchangeable sodium, % (ESP)	0.8					
Sodium absorption ratio (SAR)	0.02					

Water holding capacity

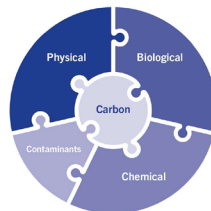
Plant available water, mm	46
Field capacity (pF 2.0), %	22.5
Irrigation point (pF 3.3), %	8.2
Wilting point (pF 4.2), %	4.3

Cation Exchange Complex

		low	rather low	good	rather high	high
Effective CEC, mmol ⁺ /kg	79					
Ca-CEC, %	81					
Mg-CEC, %	15					
K-CEC, %	3.7					
Na-CEC, %	0.8					
Base saturation, %	100					

Cation Exchange Complex legend

■ optimal structure	■ very moderate structure
■ good structure	■ poor structure
■ moderate structure	○ current structure



Crop based guidelines

Optimise crop yield and quality

Main nutrients	Ware potatoes Innovator	Winter wheat	Sugarbeet	Alfalfa	Silage maize	Leek Summer
Exp. yield (ton/ha)	50	9	82	20	50	42
N, kg/ha	210	180	140	25	160	120
S, kg/ha	32	28	37	25	36	41
P, kg/ha	0	0	0	0	0	0
K, kg/ha	300	94	130	90	200	140
Ca, kg/ha	60	15	52	52	37	97
Mg, kg/ha	29	12	18	12	35	18

Micro nutrients

Fe, kg/ha	Rather low	Rather low	Rather low	Rather low	Rather low	Rather low
Zn, kg/ha	0.0	0.0	0.0	0.0	0.0	0.0
Mn, kg/ha	Rather low	Rather low	Rather low	Rather low	Rather low	Rather low
Cu, kg/ha	0.4	2.3	0.4	0.4	0.4	0.4
Ni, kg/ha	Very low	Very low	Very low	Very low	Very low	Very low
B, kg/ha	0.5	0.5	1.4	1.4	1.4	0.5
Mo, kg/ha	Very low	Very low	Very low	Very low	Very low	Very low

Beneficial nutrients

Si, kg/ha	Good	Good	Good	Good	Good	Good
Co, kg/ha	Rather high	Rather high	Rather high	Rather high	Rather high	Rather high
Se, g/ha	Very low	Very low	Very low	Very low	Very low	Very low
Na, kg/ha	0	0	120	0	0	0

Bio available heavy metals

Al	Low amounts - no effect on crop growth and/or health risks are expected.
Ti	Low amounts - no effect on crop growth and/or health risks are expected.
V	Considerable amounts - no effect on crop growth and/or health risks are expected. However, be vigilant for possible sources of input.
As	Low amounts - no effect on crop growth and/or health risks are expected.
Cd	Negligible amounts – no effect on crop growth and/or health risks are expected.
Cr	Negligible amounts – no effect on crop growth and/or health risks are expected.
Pb	Negligible amounts – no effect on crop growth and/or health risks are expected.
Sn	Negligible amounts – no effect on crop growth and/or health risks are expected.

Soil based guidelines

P, kg/ha	19
K, kg/ha	0
Ca, kg/ha	62
Mg, kg/ha	0
Target pH (5.7), kg NV/ha	370
0.1 pH increase, kg NV/ha	230
Max. irrigation recommendation, mm	36
Fungi/Bacteria ratio	

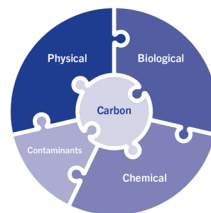
Year Rotation (4 Years)

19	75
0	0
62	250
0	0
	370
	230
	36

(pF 3.3 - pF 2.0)

This soil is dominant in bacteria. This results in rapid organic matter breakdown and dynamic nutrient mineralization. To increase the fungi/bacteria ratio, add complex organic materials with a high C/N ratio like straw, compost and solid manure. Implement conservation practices like reduced tillage to promote the fungal community.

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3. Soil Organic Carbon Balance



Current soil carbon status:	79969	kg C per hectare	= 293.5	ton CO ₂ per hectare
Output: expected breakdown (mineralisation)	1839	kg C per hectare	= 6.7	ton CO ₂ per hectare
Input: Needed to maintain soil organic carbon status	1839	kg C per hectare	= 6.7	ton CO ₂ per hectare
Input: Additional input needed to improve by 4 per 1000	320	kg C per hectare	= 1.2	ton CO ₂ per hectare
Total required carbon input	2159	kg C per hectare	= 7.9	ton CO ₂ per hectare

Scan QR-code or follow hyperlink (email) to optimize your personal carbon management



Risk of P-leaching

P-binding capacity, kg/ha	3200	
P-saturation, %	51	

* = indicative value

Methods

Contact Eurofins: