

Name:

Soil cover rate.

Definition:

This indicator refers to the number of days in one year when the soil is covered. It is based on the "Soil Cover" indicator defined by OECD in 2001.

Calculation method:

$$\text{Indicator} = \frac{1}{365 \times A_T} \sum_i [DC_i + (365 - DC_i) \times SCC] A_i$$

Where:

A_T : Total area considered (ha)

DC: Number of days that the crop covers the soil

SCC: Soil cover coefficient after harvest:

Crops in direct seeding: SCC=0,50

Crops in minimum tillage: SCC=0,35

Crops in conventional tillage: SCC=0

A_i : Area for the crop i (ha)

Interpretation:

The presence of vegetation cover reduces the risk of soil erosion. Therefore, the agricultural land with a higher level of this indicator, will be better protected against erosion, which gives it greater environmental sustainability. This indicator shows that different management cropping systems such as direct seeding or minimum tillage help to protect soil more effectively from erosion, even when vegetation is not active on the ground. After contacting different experts, weighting coefficients were assigned to farms using these cropping systems.

Information source:

A_T : Total area considered (ha). It is the sum of the analyzed plots.

DC: Number of days that the crop covers the soil. It has been calculated using the dates of sowing / harvesting of the crop obtained through a survey to farmers. In case of having covered crop the days with said culture are added to those of the main crop.

CTE: Soil cover coefficient obtained by contacting different experts (Gómez-Limón et al, 2010)

A_i : Area for the crop i (ha). It is the surface of each plot.

Bibliography and references:

OECD - Organization for Economic Co-operation and Development (2001): Environmental indicators for agriculture. Volume 3 - Methods and Results, Paris.

Gómez-Limón, J. A., & Sanchez-Fernandez, G. (2010). Empirical evaluation of agricultural sustainability using composite indicators. *Ecological economics*, 69(5), 1062-1075.