

Name:

Organic matter level (%)

Definition:

Organic matter is the organic material consisting of the remains of animals and plants and the waste products the organisms leave in the environment. When the plant residues are returned to the soil, various organic compounds undergo decomposition.

Calculation method:

This indicator comes from the performance of an annually soil analysis made on the farm. The method to measure organic matter is "Walkley-Black" (Nelson and Sommers, 1982).

Sampling is performed on a representative plot by taking a sample composed of several points and in the range from 0 to 30 cm.

Interpretation:

The continuous addition of decaying plant residues to the soil surface contributes to the biological activity and the carbon cycling process in the soil. Decomposition of soil organic matter, root growth and decay also contribute to these processes. Carbon cycling is the continuous transformation of organic and inorganic carbon compounds by plants and micro- and macro-organisms between the soil, plants and the atmosphere. Decomposition of organic matter is largely a biological process that occurs naturally. Its speed is determined by three main factors: the existence of soil organisms, the physical environment and the quality of organic matter.

Therefore, improving the rate of organic matter can be made by reducing soil tillage and restitution to the soil of crop residues.

Information source:

Analysis of samples taken in the field.

Bibliography and references:

Nelson, D.W. & Sommers, L.E. 1982. Total carbon, organic carbon, and organic matter. In: Methods of soil analysis. Part 2. Chemical and microbiological properties, 2nd edn (eds A.L.Page, R.M.Miller & D.R.Keeney), pp. 539–579. Agron. Monogr. 9. ASA and SSSA, Madison, WI.