

Name:

Crop rotation

Definition:

Crop rotation on arable land is the practice of alternating annual crops grown on a specific field in a planned pattern or sequence in successive crop years so that crops of the same species are not grown without interruption on the same field. If the same crop is grown continuously, the term monoculture can be used to describe the phenomenon. The rotation of different species of cereals (for example wheat, barley, oats, wheat) is also considered as crop rotation.

Arable land is considered to be out of crop rotation when it is cultivated with the same crop for 3 years or more consecutively and when it is not part of a planned crop rotation.

Crops rotation allows the diversification of the risks of farm:

- The root system of crops is different and therefore it improves the efficiency of soil nutrients
- Pests, diseases and weeds are easier to control because planting seasons and susceptibilities are different

Calculation method:

For its calculation we must know the crop previously implanted in the plot.

$$R = \sum_{i=1}^n (P_i \times C_i)$$

Where P_i is the proportion of area occupied by the crop i

$$P_i = \frac{A_i}{\sum_{i=1}^n A_i}$$

A_i is the area of the plot i

i is each of the plots (1, 2, 3,.....)

C_i is a coefficient that depends on the previous crop

If the above crop is equal to the present $C_i = 0$, otherwise $C_i = 1$

The index takes values from 0 (monoculture in all plots), to 1 (all plots with crop rotation).

Interpretation:

Crop Diversification Index is directly related to diversification. Its values range between 0 and 1. The value 0 indicates monoculture and its increase means the increase in the number of crops and their proportion regarding the crop surface.

Information source:

The different crops surface data are obtained through a survey to *farmers*.

Bibliography and references:

Eurostat glosary, http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Crop_rotation