

Name:

Nitrogen productivity.

Definition:

Nitrogen productivity represents the crop yield (kg) per N applied (kg)

Method of calculation:

This indicator is calculated by estimating the nitrogen productivity in each plot/crop.

$$\text{Indicator} = \frac{\sum_i (NP_i \times A_i)}{A_T}$$

Where:

Indicator: Total nitrogen productivity (kg crop yield (kg) per fertilizer N (kg))

NP_i: Crop nitrogen productivity *i*

A_i: Area for the crop *i* (ha)

A_T: Total area considered (ha)

The crop nitrogen productivity is estimated as the harvested production (kg/ha) divided by the nitrogen applied through fertilization (kg N/ha).

Interpretation:

Higher nitrogen productivity means better use of fertilizers by the crop.

Information source:

Crop area, applied inputs and yields of the different crops: data obtained in a farmers survey.
The values of crop nitrogen uptakes and the values of nitrogen fixation by legumes: data obtained in bibliography.

Bibliography and references:

European Environment Agency. Indicator Fact Sheet IRENA 18.1 – Gross nitrogen balance

Ministerio de Medio Ambiente y Medio Rural y Marino (2010). Guía práctica de la fertilización racional de los cultivos en España.

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OECD / Eurostat. Gross nitrogen balance. Nitrogen handbooks (2007)