

**Name:**

Nitrogen productivity.

**Definition:**

Nitrogen productivity represents the kg of crop yield per kg of N applied

**Calculation method:**

This indicator is calculated by estimating the average balance in each of the plots / crops.

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

Where:

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

NP<sub>i</sub>: The nitrogen productivity of crop *i*

A<sub>i</sub>: Area for the crop *i* (ha)

A<sub>T</sub>: Total area considered (ha)

The nitrogen productivity of each of the crops is estimated as the division between harvested production and nitrogen applied with fertilization.

**Interpretation:**

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

**Information source:**

Crop area, applied inputs and yields of the different crops are taken from the survey.

The values of extractions of nitrogen by the crops and the fixation by legumes are taken from the attached bibliography.

**Bibliography and references:**

IRENA 18 – Gross nitrogen balance. OECD / Eurostat Nitrogen handbooks (2007)

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

Ministerio de Agricultura, Alimentación y Medio Ambiente (2015). Balance del nitrógeno en la agricultura española, año 2013. Metodología y resultados.