Name:

Nitrogen efficiency.

Definition:

Nitrogen use efficiency is the ratio between the amount of fertilizer N removed from the field by the crop and the amount of fertilizer N applied.

Calculation method:

This indicator is calculated by estimating the N use efficiency in each of the plots / crops.

- Indicator $\frac{\sum_i (NE_i \times A_i)}{A_T}$

  Where:
  Indicator: Total nitrogen efficiency (kg N output per kg fertilizer N))
  NE_i: The nitrogen efficiency of crop *i*
  A_i: Area for the crop *i* (ha)
  A_T: Total area considered (ha)

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

Interpretation:

Greater nitrogen efficiency 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.