

Name:

Energy efficiency

Definition:

The farm energy efficiency is the relationship between the crop energy and the energy used in the farm management for the crop production.

Method of calculation:

It is calculated by dividing the energy output (crop yield) and the energy input (energy used in the farm management) derived from the provision of inputs and that used in the management practices on the farm.

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

Where:

Indicator: Energy efficiency (MJ/MJ year)

EE_i: Energy efficiency of the crop *i* (MJ/MJ)

A_i: Area assigned to the crop *i* (ha)

A_T: Total area considered (ha)

Interpretation:

A value of the indicator greater than 1, means that the system consumes less energy than produces in photosynthesis. The higher the value means that less energy is required, and therefore the farm is more environmentally sustainable.

Information source:

The surfaces, inputs and crops yields data: obtained in a farmers survey.

The energy associated with each input and output: obtained in bibliography.

Bibliography and references:

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