

Definition:

$$\frac{\textit{Grain/Fruit/ Tuber yield}}{\textit{Money}}$$

Description

Benefit: This impact area refers to the weight of harvested parts of plants that possess economic value. It is suitable, where production is to be used for food or feed purposes or as a non-energetic production factor in bio-refineries. Crops with high per hectare yield will show high efficiencies in this impact area.

Resource: Evaluation of costs is imperative for all agronomic planning and central to management decisions made by farmers. For this indicator, it is necessary to define whether investment costs are considered and what interest rates are applied.

Strength & weaknesses pertaining to measurement of this impact area

Yield: Yield values are generally easy to measure and readily available at farm level or in the form of national inventories. However, their informative value is limited where they do not account for qualitative differences between types of biomass and are not accompanied by information on site conditions such as local climate or soil fertility. Therefore, comparisons between efficiencies of different production processes with regard to yields should only be made where products and site conditions are similar. In some cases, it may be advisable to select alternative indicators where the type of benefit is more clearly defined (e.g., energetic value, financial benefit).

Can be measured as**Yield:**

- yield, fresh weight [t]
- yield, dry matter weight [t]

Money:

- variable costs [\$]
- total costs [\$]

Sample Indicators

| | | | |
|----------------------------------|---|-----------------------------|---|
| Indicator values from | | Survey |  |
| Experiment or direct measurement |  | Statistical- or census data |  |
| Expert assessment |  | Literature values |  |
| Model |  | Maps or GIS |  |
| Stakeholder participation |  | Not provided |  |

Table 1: Farm Scale

| Indicator | Unit | Indicator values from |
|-----------------------------------|-----------------------|---|
| [276] Yield/Total production cost | kg * \$ ⁻¹ |  |

References

| ID | Citation | ¹Soil type & texture |
|-----------|---|---|
| 276 | Yousefi, M. and A. Mohammadi (2011). "Economical analysis and energy use efficiency in alfalfa production systems in Iran." <u>Scientific Research and Essays</u> 6 (11): 2332-2336. | clay lightweight sand, shallow defaulting on light clay |

¹**Soil type & texture:** If provided, what is the type & texture of the soil studied in the paper?