Name:

Crop Diversity

Definition:

Crop diversity allows to diversify the risk in the farm:

- Different crops require a different management and therefore the labor and technical factors are optimized.
- Different crops have different root systems and therefore that improves the efficiency in taking all the soil nutrients.
- Pests, diseases and weeds are easier to control because crops planting seasons and susceptibilities to them are different.

Method of calculation:

It is used the method proposed by Malik in 2002, derived from the calculation of the Herfindahl index, .

The Herfindahl index (H) is defined as the sum of crop ratios squared, and it is a measure of the crop concentration:

$$H = \sum_{i=1}^{n} P_i^2$$

where P_i Is the proportion of area occupied by the crop i

$$P_i = \frac{A_i}{\sum_{i=1}^{n} A_i}$$

A_i is the area of the crop i (ha?)
(i Is each of the crops (1, 2, 3,.....))

Crop Diversity Index is CDI= 1 - H

Interpretation:

The Index is directly related to the diversification in the farm. Its value ranges between 0 and 1. The value 0 indicates a monoculture and its increase means the increase in the number of crops and their proportion regarding the crop surface.

Information source:

The different crops surface data are obtained in a farmers survey.

Bibliography and references:

Kiru Sichoongwe, Lawrence Mapemba, Gelson Tembo & Davies Ng'ong'ola (2014). The Determinants and Extent of Crop Diversification Among Smallholder Farmers: A Case Study of Southern Province Zambia. Journal of Agricultural Science; Vol. 6, No. 11.

Malik, D., & Singh, I. (2002). Crop Diversification-An Economic Analysis. Indian Journal of Agricultural Research, 61-64.