

Abstract

How to Value the Ecosystem Services Provided by a Field? Parallel Between the Indicators Used by Scientists and the Empirical Observations of Belgian Farmers [†]

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Abstract: When it comes to assessing the agronomic and environmental performances of a cropping system, collaborative research with real farms can provide a lot of information that is not easily available when working in experimental plots. For example, this makes it possible to observe the long-term effects of certain farming practices or to evaluate the impact of the landscape surrounding a plot. This type of collaborative study involves a specific research methodology, particularly with regard to the choice of indicators and measurement methods that will be applied to the participants’ fields. In addition to the traditional criteria of relevance to the research question, scientific rigor and feasibility, the value that the indicators have for the farmers should be considered (Lebacqz et al., 2013). The value an indicator has for a farmer can be deduced from various criteria: is the indicator understandable to him? Does he know any reference values that will allow him to interpret the results? Does he feel able to change the result via his agricultural practices? As part of a collaborative study on the agro-ecological nature of cropping systems applied by Belgian farmers, we conducted preliminary interviews with 20 future participating farmers. Our objectives were to assess the value farmers placed on the indicators usually used by scientists to measure the ecosystem services provided by a field, and to identify empirical measurement methods used by farmers to assess their performance on these same indicators. This poster presents, for each ecosystem service, the indicators usually used by scientists (Boerema et al., 2017) and, in parallel, the empirical measurement methods developed by farmers. For example, for the “stability of soil aggregates” indicator, some farmers told us they use a simplified test immersing fresh soil blocks in water, while others observe the soil particle load in water leaving their field after a storm, assess the amount of soil left under the beet cleaner during the harvest or wait for a heavy rain to walk in their fields and see how much mud gets stuck to their shoes. These results will serve as a basis in the continuation of our research for developing measurement methods that combine scientific rigor, proximity to the field and potential of appropriation of the results by participants.

Keywords: ecosystem services; indicators; farmer; empirical observation



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