

## **O.52 - A multiple criteria evaluation of the sustainability of cropping systems with low pesticide use**

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Innovative cropping systems designed by researchers must be evaluated with respect to their environmental impacts and to their economic and social adoptability by farmers. Using a Multiple Criteria Decision Aiding method appears to be relevant as it enables a user to integrate both quantitative and qualitative information. A hierarchical tree of criteria was designed for the evaluation of grape cropping systems, focusing on practices of crop protection and soil surface management. Indicators were identified to qualify the candidate cropping systems with respect to each criterion. Because of the high diversity of farming systems in viticulture, a special care was devoted to consider the context of the farm i.e. its economic situation, its field characteristics or the farmer's priorities. The process of aggregation was then only partly determined with constant parameters, meaning that the farmer for whom the evaluation is performed must define the scale values of some economic indicators and priorities among the economic and social criteria. This method of evaluation is currently being tested by a panel of experts before being tested with farmers themselves.