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A standardized, hybrid, field guide for appraising water erosion risk by practitioners in multiple woody crops and environments

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Under a climate change scenario combining droughts and high intensity rainfall periods, with water erosion damages are becoming more important. So, farmers and land managers must be aware of the consequences of erosion and prevent it, where possible, or at least mitigate their effects. However, evaluation of water erosion risk is usually model-based and complex and therefore not appealing to end users who demand simple, and easy to understand tools to acquire knowledge and adapt farm management and agricultural practices. Paradoxically, some of the key information to understand and predict the effect of soil management can only be properly identified at farm scale with help from practitioners.

This suggests that there is scope for tools that allow the appraisal of water erosion risk by practitioners at farm level. There are successful examples of this approach, for instance Millgroom et al. (2006, 2007) who developed a field tool for organic olive growers. This based field tool was based on a simplified version of the RUSLE (Renard et al., 1997), to assess water erosion risk in organic olive groves at farm scale in Southern Spain. Its approach consisted of four steps: **1)** to divide the farm into homogenous zones according to soil types, topography and management practices; **2)** to complete an evaluation of the general erosion risk on each previously defined area taking into consideration, crop typology, management practices and topography; **3)** to conduct an on-farm check for the visual symptoms of soil erosion on the different defined areas of the farm to

account for effects of specific soil type and climate; **4)** to combine the general erosion risk (Appraisal 1) and the on-farm check (Appraisal 2) to assess the overall erosion risk.

Although this tool proved successful among practitioners and it showed its potential, in its original form it is confined to a specific niche. Clearly, there is the need to expand this approach for a more general use.

This communication presents a preliminary, in progress, version of a field tool for appraising water erosion risk in woody crops valid in multiple environments and crops, developed in the context of the EU/China TUDI project and the EIP-Agri Operational Group BIOLIVAR. It will combine a dual approach combining erosion risk estimation, from basic farm and management features based on simplified RUSLE factors, with erosion symptoms. Its design is based for a hybrid use, and is available either in a paper form (which remains the most operational one in many field conditions) or in a web-based tool. With this approach this tool aims to achieve these objectives:

1- To provide a standardize tool valid across multiple environments and crops to evaluate water erosion risk in woody crops.

2- To develop an educational tool to provide training on prevention water erosion.

3- To reinforce international cooperation among Chinese and European teams, in cooperation with practitioners.

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