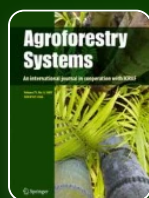


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Farm-SAFE: the process of developing a plot- and farm-scale model of arable, forestry, and silvoarable economics

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Abstract

Financial feasibility and financial return are two key issues that farmers and land owners consider when deciding between alternative land uses such as arable farming, forestry and agroforestry. Moreover regional variations in yields, prices and government grants mean that the relative revenue and cost of such systems can vary substantially within Europe. To aid our understanding of these variations, the European Commission sponsored a research project called “Silvoarable Agroforestry For Europe” (SAFE). This paper describes the process of developing a new economic model within that project. The initial stages included establishing criteria for the model with end-users and reviewing the literature and existing models. This indicated that the economic model needed to allow comparison of

arable farming, forestry and agroforestry systems at a plot- and a farm-scale. The form of comparisons included net margins, net present values, infinite net present values, equivalent annual values, and labour requirements. It was decided that the model would operate in a spreadsheet format, and the effect of phased planting patterns would be included at a farm-scale. Following initial development, additional user feedback led to a final choice on a model name, a final method of collating input data, and the inclusion of field-based operations such as varying the cropped area, replacing dead trees, and pruning. In addition options in terms of improved graphical outputs and the ability to undertake sensitivity analysis were developed. Some of the key lessons learnt include the need to establish clear model criteria and the benefits of developing a working prototype at an early stage to gain user-feedback.

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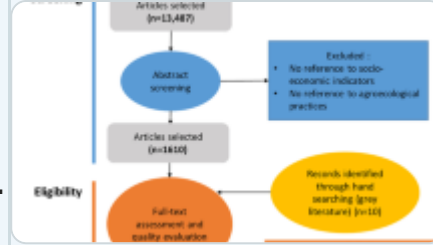
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