



Recommendations for innovative management practices

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Introduction

This deliverable is part of WP2 activities entitled “PPPs’ distribution and health status”. This deliverable aims to identify innovative and sustainable land management practices to reduce reliance on PPPs focusing on topics prioritised by the European Commission, such as the promotion of low-pesticide-input farming, or other management practices needed for farmers to implement Integrated Pest Management (IPM), and the Sustainable Use Directive (SUD). Selection of innovative techniques for mainstream farming systems will be based on (i) data available from literature review, (ii) past and ongoing projects, such as iSQAPER (innovative agricultural management practices), SoilCare (soil improving cropping systems), and the WOCAT database (best practices), covering various pedo-climatic zones, soil types, and farming systems, and (iii) knowledge gained from stakeholders (e.g., farm advisors, or technical authorities). Point (i) above is based on the systematic review; point (ii) is based on the work carried out in the milestone SM2 delivered on 28.02.24 and entitled “List of innovative SLMs and their impact on EPAH established” that includes IPM and SUD; and point (iii) is based on interviews conducted with the key actors (e.g., agronomists and technical advisors). Pedo-climatic zones and soil types were reported for each SLM, when available.

In SM2, a set of management strategies have been identified, including state-of-the-art IPM, organic production and/or other advances in agro-ecology including innovative techniques (e.g. cultural, physical, mechanical, and biological techniques). D2.6 aims to verify which of the listed farming practices have been shown to help reduce the use of PPPs while mitigating the effects of climatic change.

“Innovative” means SLM not implemented in the conventional farming systems and that have been shown to effectively reduce the reliance on pesticides.

This deliverable is structured as follows:

Chapter 1 – Description of the methodology used

This chapter aimed to describe the different steps used in the systematic review, the outcomes of the interviews conducted with the stakeholders, and the description of the method of the data analysis.

Chapter 2 – Results

The objectives of this chapter are to present the outcomes of the systematic review in terms of the number of papers by step of the search, general results, and results per crop and pesticide type.

Chapter 3 – Discussion

In this chapter, we provide the most effective SLMs to reduce the reliance on pesticides and the appropriate conditions for their implementation if available.

Chapter 3 – Summary and Remarks



In this chapter, we provide the most promising SLMs to reduce the reliance on pesticides and the concluding remarks

Summary & of the most promising SLM

Our study was based on a systematic review supported by quantitative and qualitative analysis. Other Information gained from key actors (e.g., agronomists and technical advisors) was discussed. The main findings consist of the most promising SLM to reduce pesticide use disaggregated in the six crop groups existing at the case study sites within SPRINT. They are listed below according to their effectiveness, wide use and validation based on an established index (see Table 1). Apart from crop rotations, the three most promising practices are listed. Due to the few identified practices, only two SLMs are presented for crop rotations (Table 1).

Table 1: Most promising SLM practices per crops

Crops	SLM	Effectiveness (0-1)	Wide use (0-1)	Validation (0-1)	Promising index (0-1)
Fruits	IPM	0.81	0.88	0.86	0.85
	Biofungicides	0.66	0.86	0.70	0.74
	Pheromone dispensers	0.83	0.25	1.00	0.69
Cereals	Automated targeting	0.66	0.88	0.79	0.78
	Resistant varieties	0.80	0.63	0.88	0.77
	Mechanical weed control + optimal timing of application	1.00	0.38	0.90	0.76
Vineyards	Resistant varieties	1.00	0.25	1.00	0.75
	Automated targeting	0.70	0.63	0.92	0.75
	DSS	0.50	0.88	0.75	0.71
Vegetables	Resistant varieties	1.00	0.38	0.88	0.75
	IPM	0.75	0.50	0.88	0.71
	Optimal timing of application	0.83	0.38	0.8	0.67
Oilseeds	DSS	1.00	0.25	0.75	0.67
	Intercropping	1.00	0.38	0.57	0.65
	IPM	0.75	0.38	0.75	0.63

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