SINGLE-IMPACT FICHE – AGROFORESTRY

IMPACT: POLLINATION

Data extracted in June 2020

This fiche summarises the impact of Agroforestry on POLLINATION. It is based on a review of one peer-reviewed synthesis research paper, involving 3 individual papers.

This fiche is part of a set of similar fiches synthesising all the impacts of agroforestry presented in the general fiche

1.WEIGHT OF THE EVIDENCE

- CONSISTENCY OF THE IMPACT: The only synthesis paper available shows a positive effect of agroforestry on pollination compared to cropland in the Temperate region (Canada, France, Turkey, UK and USA). See the table below for details.

		Effects (all studies)				Effects (only studies including EU)			
Impact	**Comparator**	**Positive**	**Negative**	**No effect**	**Uncertain**	**Positive**	**Negative**	**No effect**	**Uncertain**
Increase pollination	Croplands without trees	1	0	0	0	1	0	0	0

- QUALITY OF THE SYNTHESIS PAPER: [The quality score summarises 16 criteria assessing the quality of three main aspects of the synthesis papers: 1) the literature search strategy and studies selection; 2) the statistical analysis; 3) the potential bias. The scores can be found in the Excel database with all the data extracted from the synthesis papers]

  As shown in the "Quality score" of the table in section 2, the quality level is very high (94%). The only quality criteria not satisfied was the dataset availability.

- NUMBER OF SCIENTIFIC PAPERS: The number of papers included in the synthesis paper is 3.

2. IMPACTS

The main characteristics and results of the synthesis paper are summarized in the table presented below. For details follow this link

	Reference	Population	Geographical scale	Intervention	Control	Conclusion	Quality score	Global effect
1	Staton, T; Walters, RJ; Smith, J; Girling, RD. 2019	Temperate arable systems	Temperate region, defined as latitude> 40° north or south (Canada, France, Turkey, UK and USA)	Silvoarable agroforestry systems.	Crop monocultures.	Pollinators were more abundant in silvoarable than arable systems, but study replication was low.	94%	Positive, compared to cropland.

3. KNOWLEDGE GAPS

[They are extracted from each meta-analysis, synthesized and consolidated]

- Very few published studies with low replication for pollinators.

4. SYSTEMATIC REVIEW SEARCH STRATEGY

Keywords	TOPIC: (agroforestry OR "agro-forestry") AND TOPIC: (meta-analy*)
Search dates	No time restrictions
Databases	Web of Science and Scopus, run on 15 May 2020
Selection criteria	Three main criteria led to the exclusion of a study: (1) the study does not deal with agroforestry; (2) the study does not assess the environmental and climate impacts of the farming practice on pollination; (3) the study is neither a meta-analysis nor a systematic review. Studies that passed the relevance criteria were subject to critical appraisal carried out on article by article basis. We finally selected 1 meta-analysis.