SINGLE-IMPACT FICHE
LANDSCAPE FEATURES

IMPACT: ANIMAL PRODUCTION

Data extracted in October 2021

Note to the reader: This fiche summarises the impact of two landscape features (hedgerows and isolated trees[1]) on ANIMAL PRODUCTION. It is based on 1 peer-reviewed synthesis research paper[2], including 83 individual studies.

1. WEIGHT OF THE EVIDENCE

- CONSISTENCY OF THE IMPACT:
  The effect of <u>hedgerows</u> and <u>isolated trees</u> on animal production compared, respectively, to cropland or grassland without hedgerows or isolated trees is uncertain (see **Table 1**). The only synthesis paper reviewed reports relevant results, but without statistical test of the effects and it is labelled as uncertain. Details are provided below in Table 2 and in the summary reports.

The reviewed synthesis paper includes data collected in Europe (see **Table 2**).

Table 1. Summary of effects. The numbers between parentheses indicate the number of synthesis papers with a quality score of at least 50%. Details on quality criteria can be found in the next section. The only synthesis paper reported effects for two different landscape features.

Impact	Intervention	Positive	Negative	No effect	Uncertain*
Increase animal production	Hedgerows	0	0	0	1 (0)
	Isolated trees	0	0	0	1 (0)

* Number of synthesis papers that report relevant results but without statistical test comparison of the intervention and the control.

QUALITY OF THE SYNTHESIS PAPERS: *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. Details on quality criteria can be found in the methodology section of this WIKI.*

2. IMPACTS

The main characteristics and results of the synthesis paper are summarised in **Table 2**. Summaries of the meta-analyses provide fuller information about the results reported in each synthesis paper, in particular about the modulation of effects by factors related to soil, climate and management practices.

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[1] Described in the General Fiche.

[2] Research synthesis papers include a formal meta-analysis or systematic reviews with some quantitative results. Details can be found in the methodology section of the WIKI.

Table 2. Main characteristics of the synthesis paper reporting impacts of landscape features on animal production.

Reference	Population	Scale	Num. papers	Intervention	Comparator	Metric	Conclusion	Quality score
England, JR; OGrady, AP; Fleming, A; Marais, Z; Mendham, D 2020	Grazed dairy systems	Global	83	1) Shelterbelts (hedgerows); 2) Pasture trees (isolated trees)	Grazed dairy pasture without trees	Heat stress, stock productivity and heath, milk production and quality	The effects reported are generally positive. *Reviewers' note: We labelled the results as uncertain due to the lack of statistical testing.*	38%

3. KNOWLEDGE GAPS

England et al., 2020   The number of publications supporting a given relationship was often relatively low.