

Note to the reader: This fiche summarises the effects of Following on CROP YIELD. It is based on 1 synthesis paper¹ containing 94 primary studies.

1. WEIGHT OF THE EVIDENCE

CONSISTENCY OF THE IMPACT

Following has differing effects on crop yield compared to cultivated arable lands, depending on the type of fallow land (see **Table 1**):

- In the case of green fallow², the only synthesis paper reported a significantly positive effect (i.e., increase of crop yield) on maize crop yield after following.
- In the case of natural fallow³, the synthesis paper reported one significantly positive and one non-significant effect in maize yield grown after following, depending on whether crops were fertilised and no fertilised, respectively.

The table below shows the number of synthesis papers with statistical tests reporting i) a significant difference between the Intervention and the Comparator, that is to say, a significant statistical effect, which can be positive or negative; or ii) a non-statistically significant difference between the Intervention and the Comparator. In addition, we include, if any, the number of synthesis papers reporting relevant results but without statistical test of the effects. Details on the quality assessment of the synthesis papers can be found in the methodology section of this WIKI.

The selected synthesis paper did not include studies conducted in Europe (see **Table 2**).

Table 1: Summary of effects. Number of synthesis papers reporting positive, negative or non-statistically significant effects on environmental and climate impacts. The number of synthesis papers reporting relevant results but without statistical test of the effects are also provided. When not all the synthesis papers reporting an effect are of high quality, the number of synthesis papers with a quality score of at least 50% is indicated in parentheses. The reference numbers of the synthesis papers reporting each of the effects are provided in **Table 3**. Some synthesis papers may report effects for more than one impact or more than one effect for the same impact.

Impact	Metric	Intervention	Comparator	Statistically tested			Non-statistically tested
				Significantly positive	Significantly negative	Non-significant	
Increase crop yield	Crop yield	Green fallow	Cultivated arable land	1	0	0	0
		Natural fallow	Cultivated arable land	1	0	1	0

QUALITY OF THE SYNTHESIS PAPERS

The quality of each synthesis paper was assessed based on 16 criteria regarding three main aspects: 1) the literature search strategy and primary studies selection; 2) the statistical analysis conducted; and 3) the evaluation of potential bias. We assessed whether authors addressed and reported these criteria. Then, a quality score was calculated as the percentage of these 16 criteria properly addressed and reported in each synthesis paper. Details on quality criteria can be found in the methodology section of this WIKI.

2. IMPACTS

The main characteristics and results of the 1 synthesis paper is reported in **Table 2** with the terminology used in those papers, while **Table 3** shows the reference numbers of the synthesis papers reporting for each of the results shown in **Table 1**. Comprehensive 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, are provided in the **summaries of the synthesis papers** available in this WIKI.

Table 2: Main characteristics of the synthesis paper reporting effects on crop yield.

Reference number	Population	Scale	Num. papers	Intervention	Comparator	Metric	Conclusion	Quality score
Ref3	Maize crops in Africa	Africa	94	1) Natural fallow; 2) Improved fallow (legume herbaceous species); 3) Improved fallow (legume coppicing species); 4) Improved fallow (legume non-coppicing species)	Continuously cropped unfertilized maize monoculture	Crop yield	The global maize yield response to improved fallows with legume species is significantly positive and higher than unfertilized maize and natural vegetation fallows.	75%

¹ Synthesis research papers include either meta-analysis or systematic reviews with quantitative results. Details can be found in the methodology section of the WIKI.

² Green fallows are fallows of land sown exclusively for the production of green manure.

³ Natural fallows are fallows with bare land bearing no crops at all or land with spontaneous natural growth, which may be used as feed or ploughed in.

Table 3: Reference numbers of the synthesis papers reporting for each of the results shown in **Table 1**.

Impact	Metric	Intervention	Comparator	Statistically tested			Non-statistically tested
				Significantly positive	Significantly negative	Non-significant	
Increase crop yield	Crop yield	Green fallow	Cultivated arable land	Ref3			
		Natural fallow	Cultivated arable land	Ref3		Ref3	

3. FACTORS INFLUENCING THE EFFECTS ON CROP YIELD

Table 4: List of factors reported to significantly affect the size and/or direction of the effects on crop yield, according to the synthesis papers reviewed.

Factor	Reference number
Fallow length	Ref3
Fertiliser recommended dose in post-fallow cropping season (%)	Ref3
Interaction between fertiliser recommended dose and post-fallow cropping season	Ref3
Post-fallow cropping season	Ref3
Site productivity	Ref3

4. KNOWLEDGE GAPS

The authors did not report knowledge gaps in the reviewed synthesis papers.

5. SYNTHESIS PAPERS INCLUDED IN THE REVIEW

Table 6: List of synthesis papers included in this review. More details can be found in the summaries of the meta-analyses.

Ref Num	Author(s)	Year	Title	Journal	DOI
Ref3	Sileshi, G; Akinnifesi, FK; Ajayi, OC; Place, F	2008	Meta-analysis of maize yield response to woody and herbaceous legumes in sub-Saharan Africa	PLANT AND SOIL, 307, 1-19.	10.1007/s11104-008-9547-y

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