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# Agriculture practices supporting biodiversity conservation in Israel: A meta-analysis

## Introduction

Farmlands can play a key role in supporting biodiversity conservation. Agricultural environmental schemes are encouraging land sharing strategies which require comprehensive evident base to be effective

## Take home message

**Agricultural practices with spatial impact, that integrate natural habitats with agricultural land, have the highest scientific evidence for biodiversity conservation.**

Orchard with cover crops by Aviv Avishar

## Aim

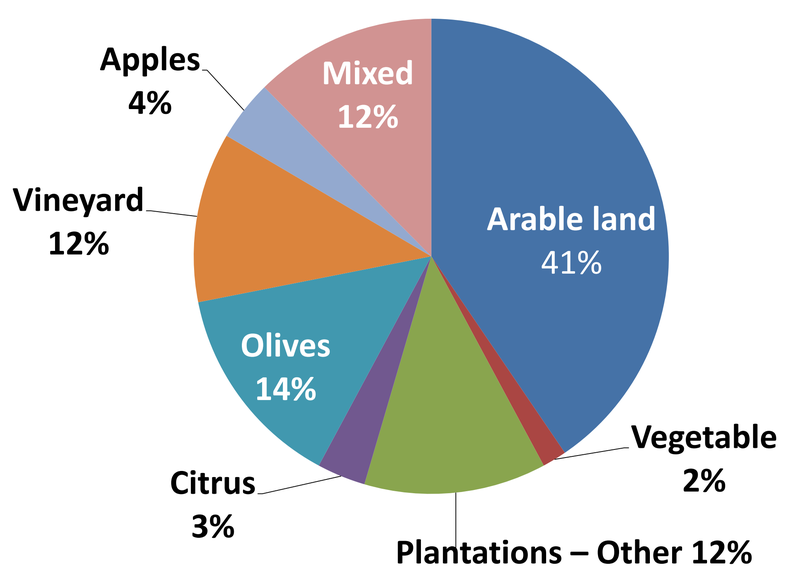
This study was designed to identify wildlife-friendly farming practices, which may be incorporated into Israeli farms, given the local climate, biodiversity, and the prevalent agricultural branches. An additional aim is to identify knowledge gaps and directions for future research in agroecology.

## Methods

The research focused on identifying scientific evidence for the contribution of various agricultural practices to biodiversity conservation, based on Conservation Evidence Methodology:

1. **Search & identifying** scientific per-reviewed **research work** done in Mediterranean climate zones.
2. **Extracting evidence** such as: The type of specific farming practice, what species are effected and in what manner: Richness, diversity, abundance.
3. **Deducting the main practices** that derive from the reviewed research & Writing summery reports for each meta practice.
4. **Deriving conclusions** on best practices and indicating decision making support tool for biodiversity conservation in agriculture

**Agricultural sectors examined in studies**
**Engaged in agriculture and biodiversity**




## Results

The meta-analysis of the research in the data base reviled the following outcomes:

1) 17 meta biodiversity-supporting agricultural practices were identified.

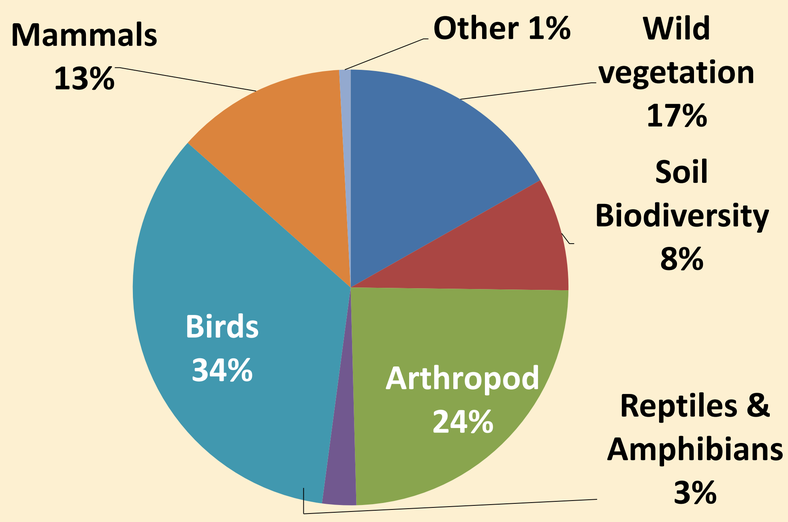
2) The practices found to contribute to conservation in the largest number of studies: conserving natural patches in agricultural areas and cover crops.

3) 34% of the studies dealt with bird conservation in farms

4) 3% of research dealt with reptiles and amphibians – highly endangered species.

5) Only 2% of the studies dealt with vegetables farms, an important agriculture sector in the Mediterranean areas.

**The variety of taxonomic groups under research in the data base**




## Conclusion

The table on the right displays the evaluation of 9 agricultural practices derived from the database.

Agricultural practices with spatial impact, that integrate natural habitats with agricultural land, have the highest scientific evidence for biodiversity conservation**.** Other practices have medium or weak evident base due to mixed result or insufficient data

Furthermore, this study provides a tool to support decision-making processes in identifying practices that should be promoted by biodiversity and agroecology policy and research.

**Agricultural Practices and their contribution to conservation**

| practice | Num. of studies | % positive contribution | Strength of evidence |
|---|---|---|---|
| Cover crops in orchards | 21 | 71% | strong |
| Landscape mosaic | 16 | 50% | Strong |
| Natural patches | 15 | 67% | Strong |
| Hedgerow | 15 | 60% | Strong |
| IPM\ Reduced Pesticides | 15 | 40% | Medium |
| Reduced tillage | 11 | 36% | Medium |
| Herbaceous filed edges | 9 | 56% | Medium |
| Seed cycle | 3 | 33% | Weak |
| Filed size | 6 | 50% | Weak |