

Pollination in Olive Trees with a Focus of Importance of Bees

Laila Ubbi Baldochi¹ Victor Forti² Fabrício Rossi³ Ricardo Camargo³

1 - Programa de Pós Graduação em Agroecologia e Desenvolvimento Rural, Universidade Federal de São Carlos, Centro de Ciências Agrárias. Araras, São Paulo

The decline of pollinators has raised alarm, as it brings impacts to agriculture and challenges in maintaining biodiversity within ecosystems. The aim of this study was to analyze, through a systematic review, the state of the art of the main pollination strategies in olive trees (*Olea europaea*), highlighting the significance of bees in these agroecosystems. Through the search key ("Pollination*" OR "Pollinator" AND "Olive*" OR "Olea europaea*" AND "Bee*" OR "Bees*") performed on the Web of Science database, it was possible to analyze and synthesize the relevance of investigating this insect-plant relationship. Olive trees are anemophilous plants, meaning they are wind-pollinated and therefore not dependent on entomophily. As a result, current studies have demonstrated the presence of bees with consistent visiting behavior to their flowers. In this context, it was observed that the cultivation of olives with excessive use of pesticides creates a hostile environment for bees, both social and solitary, which are known to seek nesting spaces and natural resources within this agroecosystem. This aspect is also considered a requirement for planning the landscape context for rural and ecological development. The presence of *Olea europaea* pollen in the honey found within the nests was confirmed, indicating an important floral resource for maintaining bee biodiversity. This resource is often scarce, influenced by flower seasonality, local natural species, landscape patterns, and extensive olive monocultures. The abundance and species richness of bees in olive agroecosystems have been investigated as essential elements in biodiversity maintenance, serving as agents that contribute to pest and disease control, thereby enabling improved productivity.