

First insights into fruit pollination in agricultural landscape of northern Italy

Exploring fruit pollination in agricultural landscapes: First insights from the Lombardy Living Lab

First insights into fruit pollination in Northern Italy: how to safeguard pollinators and halt their decline

The Life Behind Our Fruits: First insights into fruit pollination in Northern Italy

Quantifying Pollinator Contributions to Ecosystem Services in Agroecological Landscapes in the Milan Province

Brambilla, Giulia - University of Milano-Bicocca, Department of Biotechnology and Biosciences, Milano, Italy;

Galassini, Andrea A. R. - University of Milano-Bicocca, Department of Biotechnology and Biosciences, Milano, Italy;

Tirozzi, Pietro - University of Milano-Bicocca, Department of Biotechnology and Biosciences, Milano, Italy;

Galimberti, Andrea - University of Milano-Bicocca, Department of Biotechnology and Biosciences, Milano, Italy - National Biodiversity Future Center (NBFC), Palermo, Italy;

Labra, Massimo - University of Milano-Bicocca, Department of Biotechnology and Biosciences, Milano, Italy - National Biodiversity Future Center (NBFC), Palermo, Italy;

Biella, Paolo - University of Milano-Bicocca, Department of Biotechnology and Biosciences, Milano, Italy;

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Giulia Brambilla¹, Galassini A.¹, Tirozzi P.¹, Galimberti A.^{1,2}, Labra M.^{1,2}, Biella P.¹

Abstract MAX 300 PAROLE

Biodiversity underpins essential ecosystem services, with pollination playing a key role in both natural and agricultural systems. However, pollinators face multiple pressures, including climate change, increased temperatures due to soil sealing and urbanization, limited floral resources and nesting sites, and widespread pesticide use. These factors, combined with low public awareness of pollinators' ecological and economic importance, represent major barriers to their conservation. Given the importance of pollinators, understanding how their loss increases the vulnerability of specific supply chains constitutes a central research objective.

Within the EU-funded Horizon projects Butterfly and ProPollSoil, these challenges are addressed through the establishment of the Lombardy Living Lab, a network of entities in and around Milan. This network includes green recreational and protected areas, community allotments, farms, environmental managers, journalists and foundations.

Through field sampling and observation of pollinator communities associated with key fruit crops such as cherry, blueberry, and apple and cooccurring wild dominant plants, we identify the

pollinator assemblages essential for crop yield. These data allow us to assess how pollinator communities vary in relation to landscape context, management practices, grass height, and the presence of co-flowering species.

Preliminary results of the observation sessions reveal that pollinator assemblages differ among fruit species and are influenced by the presence of co-flowering wild plants. A supply chain literature analysis of cherry production supports our finding and reveals its strong dependence on insect pollination, underlining the importance of mitigation measures to counter pollinator decline.

The Living Lab provides a valuable platform to explore both ecological and social dimensions of biodiversity, contributing to a deeper understanding of how people interact with and value biodiversity across different contexts. These findings provide a baseline for developing actions to halt and reverse pollinator decline and possibly also to raise awareness on their fundamental role in ecosystem functioning and food production.