



ENHANCING PROPOLIS PRODUCTION: A STRATEGIC APPROACH TO BOOST BEEKEEPING PROFITABILITY THROUGH EFFECTIVE MEDIATION

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INTRODUCTION

Propolis, a resinous substance collected by bees from plant exudates, has garnered significant commercial interest due to its antimicrobial and antioxidant properties [1]. This material is composed by 40-70% resin and/or vegetable balsam, 10-30% beeswax, 5-10% aromatic and volatile compounds, 5-10% pollen, and other organic components [2].



Figure 1 - Beekeeper collecting propolis. Source: Authors.



Figure 2 - Grounded Propolis. Source: Authors.

Stimulating propolis production within beekeeping operations can substantially increase profitability by diversifying hive products and optimizing resource use. Additionally, it reinforces the critical role of a mobilizing agent to facilitate the connection between beekeepers and the industry, ensuring quality standards and market access.

This study examines the case of #PortugalPropolis project, implemented by Montesino, a beekeeping microenterprise founded in 2012, which collaborates directly with Portuguese beekeepers to enhance propolis production through strategic hive management techniques, such as specialized collection methods and selective breeding.

METHODOLOGY

Within the #PortugalPropolis project, Montesino provides collection grids and offers training sessions, lectures, and production guides to build technical capacity among producers. In addition, this company acts as an intermediary between beekeepers and industry, supporting distribution and commercialization while also implementing services to overcome common barriers to production, such as the extraction of propolis from grids — a task that had often discouraged participation.

Initially, the project involved only a small group of producers with an overall production of 25 kg. However, over the years, services gradually expanded, and the network of participating beekeepers steadily increased. At present, the project includes approximately 200 beekeepers, collectively ensuring an annual production about 2,000 kilograms of propolis.

Propolis production from the #PortugalPropolis project in 2023 and 2024 was estimated based on sales to Montesino, which purchases propolis from across Portugal and classifies it by extraction type—grids, pre-extracted, or frame scrapings. Each sample is coded by beekeeper and extraction method, ensuring full traceability to the final customer.

RESULTS AND DISCUSSION

In the period 2023-2024, an increase in propolis production was observed in all types of extraction (Figure 3).

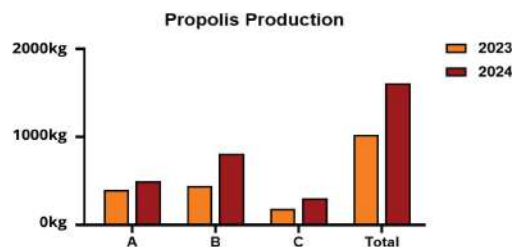


Figure 3 - A: Company extraction; B and C: Beekeeper extraction. Note: A and B reference to propolis grids; C reference to scraping propolis.

The results corroborate with recent research that points to an increase in production due to the economic potential of propolis [1,5].

CONCLUSION

Propolis production has shown steady growth in recent years (with a focus on 2023-2024), supported by Montesino through both production assistance and guaranteed sales. As a socially responsible intermediary, Montesino not only strengthens beekeepers' incomes but also supports rural livelihoods and ecosystem sustainability, fostering the long-term development of beekeeping.

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Enhancing Propolis Production: A Strategic Approach to Boost Beekeeping Profitability through Effective Mediation

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Beekeeping is widely recognized a sustainable activity, increasingly common in both monocultural and multicultural rural areas. The growing demand for more sustainable crops and products and health-conscious, organically produced food of recognised and certified origin, has driven beekeeping diversification [1]. The establishment of bee farms offer several benefits: economic, by generating income for farmers; social, by creating rural employment opportunities and mitigating rural exodus; and ecological, because bees act as natural pollinators of native and cultivated species, thereby preserving biodiversity and maintaining ecosystems balance [2].

Recently, declining demand for high-quality honey has led many beekeepers to explore other hive products as new sources of income, particularly propolis production. This resinous substance gathered by bees from plant exudates has significant commercial value due to several bioactivities, such as anti-tumor, anti-inflammatory, antimicrobial and antioxidant properties [3].

Until 2012 in Portugal, propolis production was largely neglected due to limited production and low market demand. Stimulating propolis production within beekeeping operations can substantially increase profitability [4] by diversifying hive products and optimizing resource utilization. This study examines the benefits of enhancing propolis production through strategic hive management techniques, including specialized collection methods and selective breeding. It also highlights the critical role of a facilitator who bridges the gap between beekeepers and the industry, ensuring quality standards and facilitating market access. Recent research indicates a rising demand for propolis in pharmaceuticals and functional foods, emphasizing its economic potential [4]. By integrating propolis harvesting into beekeeping practices and employing effective mediation, beekeepers can achieve higher yields, improved colony health, and increased financial returns. Therefore, stimulating propolis production, supported by dedicated intermediaries, represents a promising strategy for sustainable and profitable beekeeping.