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ABSTRACT BOOK

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Analysis of the potential use of Phacelia tanacetifolia – current directions and future prospects

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Background: Phacelia tanacetifolia Benth. is a therophyte, herbaceous species that belongs to the Hydrophyllaceae family. It is native to North America and was introduced to Europe in the first half of the 19th century [1].

Aim: To analyze the utilization of Phacelia tanacetifolia plant material in the context of modern agricultural trends, and to explore its potential applications in medicine according to its chemical composition.

Methods: Literature review among major databases such as PubMed, Scopus and ScienceDirect.

Results: Phacelia tanacetifolia is undemanding and resistant to poor soil and climatic conditions, has a short vegetation period of about 90-100 days and can be grown 3-4 times per season [2]. Its growth is characterized by rapid increase in biomass and by the formation of a long taproot system. This effectively provides the function of a cover crop, prevents soil erosion, water erosion and reduces nitrate leaching, which improves the soil for further crop cultivation [3].
In the field of beekeeping, Phacelia tanacetifolia is regarded as one of the 20 most popular pollen-producing flowers for honeybees and other insects pollinators. It is a significant source of food for pollinating insects in case of lack of nutrition and also provides a high yield of quality honey [1, 4].
The chemical composition of the plant is currently known as a complex of aromatic acids, polyunsaturated fatty acids and polyphenols. Therefore, Phacelia, in combination with its significant quantities, can be a high-quality alternative source of fodder. In addition, this phytochemical complex may have potential applications in medicine due to its possible hypoglycemic, anti-inflammatory, antimicrobial and antifungal activity [1].

Conclusion: At this stage, the main areas of Phacelia tanacetifolia use are beekeeping and agriculture. However, research of the phytochemical profile of its individual organs is a promising step for ensuring efficient and sustainable utilization of the plant.

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