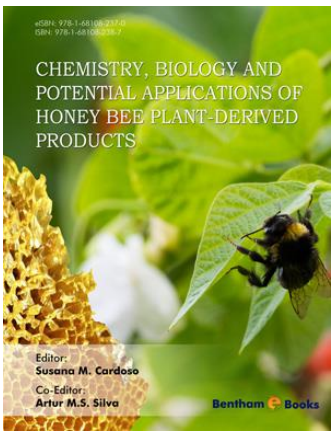

Chemistry, Biology and Potential Applications of Honeybee Plant-Derived Products

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Chemical Composition of Bee Pollen

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Abstract

Bee pollen, usually used as an important source of nutrients and micronutrients for the young bees in the hive, is also an important food for humans. This product is very rich in proteins, lipids, free sugars, carbohydrates, and it contains trace amounts of minerals, phenolic acids, flavonoids and a good range of vitamins. A brief look at bee pollen composition, it is easily recognised that it is a balanced food that can be used as a stand-alone food or as a nutritional supplement or even as a medicinal product. Several bioactivities, due to some of these compounds, were studied in bee pollen samples from different floral sources and the results conduce to important properties. The amount and diversity of micronutrients could induce vast benefits if used for health purposes following a complete risk assessment. Nevertheless, the results pointing towards the encouraged use of bee pollen, the risk assessment of some floral species containing toxic compounds has not been fully studied to insure the safety of consumption for all the gathered flowers, so this will also be discussed in this chapter. Admiration for its goodness and medicinal properties, bee pollen has been consumed for centuries, however, currently the efficacy and safety for all consumed products, foods, supplements or medicines is an important tool to guarantee correct quality control and essential to add value to the product.

To summarise, in this chapter we will put the situation of gaps in bee pollen research into some kind of perspective, outlining some important points and discussing in more depth the implications of collecting samples, chemical composition and risk assessment.

Keywords:

Apis mellifera, Chemical composition, Collecting, Dietary product, Food, Gametophyte, Medicinal product, Micronutrients, Nutrients, Nutritional supplement, Pollen, Risk assessment.