OP-054 [Beekeeping Technology and Quality

Advances in ISO standardization of bee pollen

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Standardization, although voluntary in many countries around the world, is extremely important for regulating the marketing of goods and services. The standardization of a product guarantees quality parameters not only in the production processes but also in the finished product, thus giving greater confidence to consumers.
Among the various hive products, bee pollen is an important source of macro and micronutrients for bees. Its chemical composition makes it good food or food ingredient due to the balanced percentages of proteins, lipids, and free sugars, and it also contains minerals, phenolic acids, flavonoids, and a variety of vitamins. As far as minerals are concerned, some are fundamental in metabolic mechanisms, so pollen consumption can be valuable food for humans.
All this implies the urgent need to strengthen bee pollen market with a product that is subject to rigorous quality control. The development of ISO Standards, currently in the final stages of elaboration, will certainly be a crucial tool for achieving this goal. The technical subcommittee for apiculture products, ISO/TC 34/SC 19, was created in 2017 to improve and ensure the quality of these products, where quality, methodologies of analysis, storage, and transport standards are included. The present work summarizes the standardization work carried out, focusing on the "ISO/TC 34/SC 19 - Working Group (WG3):
Bee pollen" and its importance in standardizing the requirements of quality parameters in the world market.
Within the scope of the work developed in WG3, six samples of bee pollen were subjected to different conservation processes (oven-dried, lyophilized and frozen) from six countries (France, Romania, Brazil, China, Turkey, and Portugal), and

the interlaboratory test was carried out with the participation of 19 independent international laboratories from 10 countries (China, Germany, Turkey, Portugal, France, Belgium, Romania, Brazil, Italy, and Spain) in 2021.
The results achieved so far allow the definition of standardized analytical methodologies for bee pollen and the establishment of limits for the most critical parameters, as well as rules for traceability and origin of the product: labeling, storage, and transport. It is expected that the ISO Standard should be validated by the end of 2022.