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ABSTRACT BOOK
(ORAL PRESENTATIONS)

Advances in palynological analysis of bee pollen loads

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The bee pollen trade has been increasing and is already a considerable source of income for many beekeepers. The botanical and geographical origin of bee pollen is a key factor in determining its quality and is highly relevant to its valuation. Therefore, the standardization of methodologies for accurately establishing this information is of special importance. There are a modest number of studies and a multiplicity of methods is used for estimating the botanical profile and even greater diversity for the criterion used to classify bee pollen into mono or multifloral. The latter is of particular importance to commercial companies as it influences the commercial price of bee pollen.

The performance of an Interlaboratory Test within the scope of the work of the "ISO/TC 34/SC 19 - Working Group (WG3): Bee Pollen", involving 11 laboratories, also showed a high variability of results, reinforcing the need for methodological adequacy and optimization in this area.

In order to test some of the potential factors causing the variability of the results obtained, some changes were implemented in the first proposed methodology, which improved reproducibility within and between laboratories. Preliminary results indicate the need to increase the pollen sample size to 5 g to improve its representativeness and count at least 600 pollen grains to reduce the fluctuation of results.

The size and shape of pollen grains are extremely variable depending on the botanical origin, so the value of the percentage of each pollen species in the bee pollen is not enough indicator to classify it as monofloral. It is proposed as a minimum criterion, that a given species should represent at least 80% of the volume of bee pollen grains, to be classified as monofloral.

Keywords: Bee pollen, Pollen identification, Standardization

The strenuous road toward honeybee stock self-sufficiency

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The beekeeping industry in Canada and many other countries relies on honeybee stock importation to replace winter mortalities and increase number of active colonies. These imports incur various risks (for example new pathogens, undesired or maladapted bee genetics) and undermine efforts of local breeding programs. The sustainability and self-sufficiency are major concerns of the Canadian beekeeping industry and various actions have been taken to reduce our dependence on honeybee stock importation. First, our research group is promoting the establishment of a breeding program using quantitative genetics and the BLUP model and secondly, we have developed a novel method to successfully winter large number of young, mated queens from September to April (queen banking). These banked queens are available early spring and can replace many of the imported queens. These actions contribute significantly to maintain local honeybee stock, improve colony performances, colony resistance to pathogens and overall increase sustainability and self-sufficiency of our beekeeping industry.

Keywords: Apis mellifera, honey bee breeding, queen banking





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