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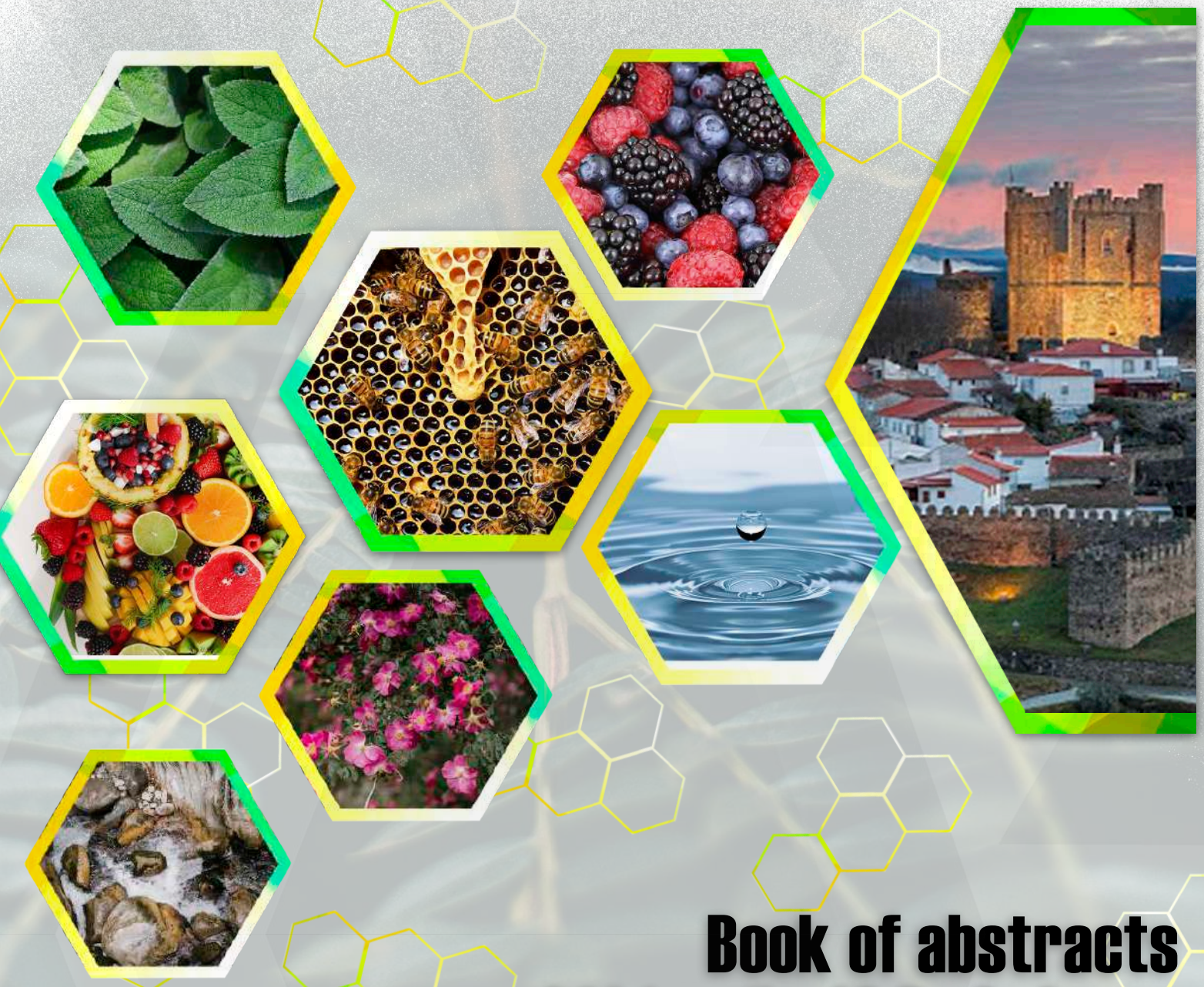

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NUTRITIONAL VALUE AND ANTIOXIDANT ACTIVITY OF BEE POLLEN SUBMITTED TO DIFFERENT PRESERVATION TECHNIQUES

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The moisture content in bee pollen is one parameter of greatest interest for the preservation and quality of this product, since bee pollen is subject to the proliferation of microbiological contaminations that can make its consumption and commercialization unfeasible [1]. Various studies have stated that the choice of preservation technique can have an impact on the chemical composition and antioxidant activity of pollen [2,3,4,5]. Thus, this work intends to evaluate the immediate impact, and also over a storage period of 9 months, of the application of several preservation techniques in the chemical composition and antioxidant activity of the pollen. The bee pollen was collected in Bragança region and frozen at -18ºC, being subsequently preserved through lyophilization or drying in an oven at 35ºC, 40ºC or 45ºC. The chemical composition (moisture content, ash, fat, protein, fructose, glucose and total phenolic compounds) and antioxidant activity (DPPH and reducing power) were analysed immediately after the application of the preservation technique and after 1, 3, 6, and 9 months of storage. In addition to the expected reduction in moisture content, other chemical parameters were significantly affected during the storage period. In general, considering the maintenance of the nutritional value of the pollen, lyophilization was shown to be the most appropriate preservation technique. However, the use of lyophilization appears to have a more evident negative impact on the content of total phenolic compounds and on the antioxidant activity of the pollen, when compared with the oven drying technique, performed at a temperature of 45°C.

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