Ultrasonic Bath as a Complement to the Extraction of Bee Pollen Colorants

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Nowadays, the importance of pollen is given by its great source of protein, colorants among other functional compounds that are incorporated into the human and animal diet; beyond pollination (fertilization process between similar plants) to improve them, make them resistant to pesticides, to dehydration or increase crop production. It's like that in this research we sought to determine the best type of extraction using the Soxhlet method with and without pretreatment through the use of an ultrasonic bath. Additionally, the influence of the type of solvent based on its polarity was analyzed, using acetone and ethanol. For this purpose, apicultural pollen collected from the municipalities of Tenjo and Zipaquirá was used, botanical origin, taken mainly from flowers *Taraxacum officinale* (L.) Weber and Eucalyptus sp. of native forest in the area. On the other hand, the second pollen was extracted from the municipality of Fundación, Magdalena, with a botanical origin especially from *Citrus* sp., *Theobroma* and *Coffea*. For both pollen processes, the preexperimental variables were % humidity, % dry mass, pH and ° Brix, where these gave similar values, while the obtained yields showed that the combination between ethanol and ultrasonic bath is the most suitable for extraction with values higher than 20 % yield. In this context, it was established that, with the use of the ultrasonic bath for the extraction of apicultural pollen dyes and depending on the botanical origin, the solvent used and the extraction method to be used will perform a marked action on the yields of the extracts that will be obtained.