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PC34. Bee products as natural compounds in Cosmetics.

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Since ancient times, among the Greeks, the Egyptians and later the Romans, honey and other different bee products were considered essential for health and well-being [1]. The ancient Greek society used them widely in medicine, and later associate them with the concept of wellness and feminine beauty, in what can be considered the embryo of modern day cosmetics. Most bee products can be consumed, or used in its original format, but there are many additional applications when these products become an ingredient of a more complex product and, for that, require transformation.

Based on the characteristics of each bee product (honey, beeswax, propolis or pollen), we intended to develop new cosmetics products through the combination of them with natural compounds obtained from plants, such as extracts, essential oils and dyes. The main goal is to set a new range of formulations, based on both scientific and ancestral knowledge, allowing the creation of new products and new possibilities for both beekeepers and consumers. Natural products have been developed using the ability of honey as a moisturizing and smoothing product to use in cosmetics, like shampoos and conditioners, in association with extracted compounds from aromatic and medicinal plants. Propolis, due to its disinfectant, antibacterial and anti-inflammatory capacities is a very promising raw material for the development of creams and gels to combat acne [2]. The use of pollen in soaps and exfoliating products allowed formulations to be enriched with natural proteins and minerals. Pollen, on the other hand, can be used as natural pigment, allowing a pleasant color in both gels and creams. In the preparation of soaps with different vegetable oils, the oils were chosen based on their fatty acid composition, and recurring to tests of saponification. In the same oil we can find saturated and unsaturated fatty acids in various percentages. Saturated fatty acids can accelerate the hydrolysis and produce a hard soap, foamy, with more capacity to dissolve grease and that take longer to oxidize. Unsaturated fatty acids can slow saponification, and originate a milder soap that melts more easily but is less efficient dissolving fat and that oxidizes more easily. In the group of saturated fatty acids, stearic and palmitic acids are those which originate a harder soap, as obtained in our tests with mixtures of oil and beeswax. Lauric and myristic acids, like those found in olive oil and palm oil, were also tested in our products, originating soaps with a greater capacity to dissolve grease. The first step for the development of natural cosmetics began under the European project EuropeAid/128139/L/ACT/GW which promotes the development of beekeeping in Guinea-Bissau. Different soaps based on local coconut, palm and palm kernel oil mixed with honey and beeswax are now produced in the "Associação dos Apicultores do Leste", along with fatty creams for body and lips protection.

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2) Tecnologia Farmacêutica vol.II (2008) ed. Fundação Calouste Gulbenkian.

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