

Valorization of a co-product from the manufacture of cork stoppers: creation, production and marketing of an innovative, patented and objectified cosmetic active ingredient.



BIRKENSTOCK Natural Skin Care

Keywords

cork oak

cork

eco extraction

cosmetic

sustainability

NWFP

Cork

Scale

Global



Context

For OLEOS HALLSTAR France and DIAM-BOUCHAGE, the challenge was cosmetic innovation via eco-responsible green processes of a co-product of the cork treatment. Among the known compounds of cork is very often valorized the suberin. In this project, other non-volatile cork compounds were valorized, in particular triterpenes with anti-inflammatory and antibacterial activity and antioxidant polyphenols present in the leaves and flowers of the tree. The project enabled the implementation of an integrated chain from the harvesting of cork in Portugal and the collection of leaves and flowers to the recovery in the form of an innovative cosmetic active ingredient.



Objective

To find a valorization of a co-product resulting from the treatment of the cork stoppers carried out by the company DIAM BOUCHAGE. The partnership between DIAM BOUCHAGE and OLEOS-HALLSTAR has made it possible to evaluate the cosmetic potential of this co-product in the form of a wax containing bioactive cork compounds. The industrial development led to the filing of a European application patent in 2014. The ingredient named DIAM Oléoactif® is a natural concentrate of anti-inflammatory compounds adapted to the care of sensitive and reactive skin.



Results

The innovation has been protected by a patent FR 2 943 684 - WO 2010/112760 A1 and a brand name "DIAM Oléoactif®".

DIAM Oléoactif® is the first oily active ingredient on the market capable, at low doses, of reducing inflammation by more than 60%, while preserving the integrity and suppleness of the epidermis. It has been patented on the basis of its dual anti-inflammatory and anti-radical efficacy demonstrated in vitro and in vivo.

In only 11 days, DIAM Oléoactif® made it possible to prevent the formation of photo-induced redness by an average of 50% in UV A & UV B at an exposure dose equivalent to 1.5 times the M.E.D. (Minimum Erythematic Dose).

Through its combined contribution of tocopherols, natural vitamin E and flavonoids, DIAM Oléoactif® is a powerful free radical scavenger, thus reducing oxidative cell ageing.



Recommendations

The success of this project of cork valorization is based on consideration, from the start of the project, of all the technical, regulatory and economic constraints of the cosmetic market. The complementarity of the expertise of two industrialists is a key factor of success; the very fast integration of the field since the cork harvest also. The sourcing of raw materials is thus validated and sustainable for industrial production. In addition, innovation is a strong factor of partnership (joint patent). Finally, regular communication of the progress of the project and the results (local press, specialised press, regional innovation aid bodies, scientific congresses, trade fairs) has enabled a successful commercial launch.



Impacts and weaknesses

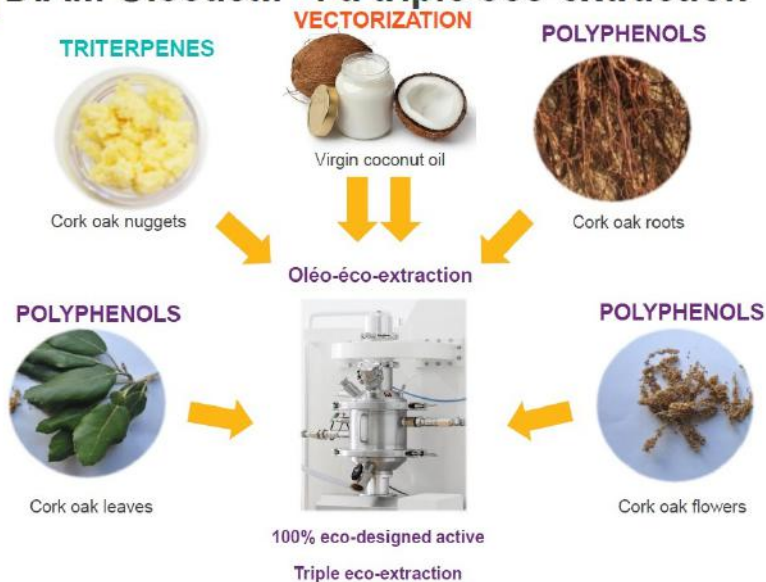
An innovative and 100% eco-responsible product has been created by valorisation chain - HALLSTAR France buys raw material from DIAM BOUCHAGE and sells the ingredient DIAM Oléoactif® to cosmetic customers in France, Asia and USA. It is today part of the top 5 of HALLSTAR BEAUTY's collection of active ingredients. The main weakness of the project is that the raw material is unique and depends on the production of DIAM BOUCHAGE cork - the sales volumes of the ingredient are therefore directly dependent on the availability of the co-product.



Future developments

Following the successful valorization of this local industrial by-product, HALLSTAR France is studying or developing other ways of valorizing local food by-products: thyme from the garrigue, rice from the Camargue, lavender distillation cake, olive leaves. HALLSTAR FRANCE also remains on active watch on the identification of biomasses or local plants.

DIAM Oléoactif® : a triple eco-extraction



OLEOS / HALLSTAR BEAUTY

Further information

Video : <https://www.youtube.com/watch?v=1wt3eKEPC6E>

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About INCREDIBLE Project

INCREDIBLE project aims to show how Non-Wood Forest Products (NWFP) can play an important role in supporting sustainable forest management and rural development, by creating networks to share and exchange knowledge and expertise. 'Innovation Networks of Cork, Resins and Edibles in the Mediterranean basin' (INCREDIBLE) promotes cross-sectoral collaboration and innovation to highlight the value and potential of NWFPs in the region.

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