

The European Citruspack project manages to develop “bio-packaging” for juice and for moisturizing creams with citrus residues

-  Three marketable products have been developed with a base of bioplastic material reinforced with citrus waste powder (pulp and orange peel), which could revolutionize the cosmetic and packaging industry
-  AITIIP technology center, located in Zaragoza (Spain), has coordinated the project, funded by the European Commission, also with the participation of six other partners from Spain, Belgium, Greece, France and Slovenia
-  Only in Spain hundreds of thousands of tons of fruit waste are generated every year. CITRUSPACK proposes a sustainable alternative for the use of waste, favoring the Circular Economy throughout the entire value chain

Zaragoza, 4 February 2021. Oranges, tangerines, and other citrus fruits can have a much longer life than imaginable. Its existence is not limited exclusively to food, and the trash bin does not have to be its end of life. Peels and pulp, that are, citrus residues, can be transformed into essential raw material to develop new sustainable products. For example, these residues can become juice bottles destined to house the juice of a new citrus fruit, and even the start base of a 100% natural moisturizer for the face, packed into cosmetic packaging made of citrus waste sources.

Framed in the Europe 2020 Strategy of the European Commission, the CITRUSPACK project, after years of ambitious research, has managed to develop three prototypes of bioproducts that will revolutionize the packaging industry and cosmetics: a bottle of juice (bio-bottle), a cosmetic jar (bio-jar) and a moisturizing facial cream. All this, from the citrus residue. Several technology centers, laboratories and companies from up to five different EU countries (Spain, Greece, Slovenia, France, Belgium) have been involved in the project. Among them, the Zaragoza technology center AITIIP, coordinator of the project, the Murcian group AMC, Eroski, and the international partners TECOS, OWS, PLASTIPOLIS and OLVETIA.

In a first phase of the research, a bioplastic material (petroleum free) was created, which was mixed with natural powder from the peel and pulp of citrus fruits. With this material, later, the structure of the bottle and jar was elaborated, obtaining, in addition, the "check" of validation of industrial compostability according to European standards.

Another phase of the project focused on developing, from citrus powder and essential oils, up to five different formulations of moisturizing masks and face creams, whose physical-chemical properties have also been validated by the standards of the cosmetic industry.

Biobottles and biojars, a sustainable solution for the Circular Economy

Currently, only in Spain, hundreds of thousands of tons of citrus waste are generated every year that do not stop having a high potential for use. Much of that residue is used as livestock feed, but its rapid fermentation makes it an environmental problem. Furthermore, due to its high moisture content, the transport of waste is very expensive, also creating a logistical problem.

On the other hand, the environmental impact derived from the massive generation of plastic waste and the harmful treatment that is made of them, has activated all the alarms on a global scale. The increase in the use of synthetic polymers has generated ecological problems due to their non-biodegradable nature and their non-renewable fossil origin. CITRUSPACK contributes to closing the cycle, offering sustainable alternatives that favor a more responsible behavior within the field of agriculture and consumption, thus contributing beneficially to society.

In the end, the CITRUSPACK project proposes the Circular Economy as a transversal solution to the environmental problem. A sustainability that is materialized in packaging products or moisturizing creams that have managed to be developed from citrus fruit waste, and that themselves configure the complete cycle of that Circular Economy. At the same time, it improves market opportunities for farmers and producers, thanks to the diversification of waste within a new value chain.

LIFE program

CITRUSPACK is part of the LIFE Program, which is the only financial instrument of the European Union dedicated exclusively to the environment. Its overall objective for the period 2004-2020 is to contribute to sustainable development and the achievement of the objectives and targets of the Europe 2020 Strategy and the relevant Union strategies and plans on environment and climate. The current financing period 2014-2020 has a budget of 3,400 million euros.

The project has been coordinated by the AITIIP technology center and has the association of AMC Innova Juice and Drinks S.L. (Spain), EROSKI (Spain), OWS Nv (Belgium), OLVETIA (Greece), Plastipolis (France) and TECOS (Slovenia).

CITRUSPACK PARTNERS:

