NEWS

Food Design

UGR and Sugar Refinery Azucarera Ebro Produce Two Polysaccharides Through the Use of Sugar Beet Molasses

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Sep 19,2006-**In the course of scientific works, experiments have been carried out with products derived from the sugar industry: syrup, molasses and dried beet pulp.**

19/09/06 The doctoral thesis Producción de xantano y gelano a partir de coproductos de la industria azucarera (Xanthonomas and gelling polymer production from sugar industry coproducts), carried out by Rafael Páez Valle, under the supervision of professors Emilia Quesada Arroquia and Ana del Moral García, from the University of Granada, reveals the scientific viability of the use of beet molasses as a substratum to produce Xanthonomas and gelling polymers.

In the course of these scientific works, experiments have been carried out with products derived from the sugar industry: syrup, molasses and dried beet pulp. The best results have been obtained with molasses. Such coproducts are used as food for bacterium able to excrete Xanthonomas and gelling polymers. They both are polysaccharides applicable to different fields. They are large molecules which are part of different structures in animals, plants, algae and micro-organisms. Thus, starch is very used in the alimentary industry.

The aim is to look for alternatives to traditional cultivation methods to grow bacteria synthesizing their polysaccharides. It would lower the costs creating a method from a product derived from the sugar industry. In addition, Azucarera Ebro S.L. produces alcohol, an expensive solvent necessary to purify Xanthonomas and gelling polymers.

Pastry and bread-making

In the United States and in Europe, these two microbial polysaccharides are authorized in the alimentary industry. Xanthonomas (E-415) is the most common and it is much consolidated in the current market. Only in North America, more than 1600 patents on Xanthonomas applications and production have been registered. Due to its stabilizing and thickening action, it is also used in the cosmetic and drug industries and in oil extraction.

Gelling polymers have plenty applications in the alimentary industry, like water-based gels complementation gel, confectionery, compotes and jams, cake and pudding fillings, pre-cooked meals and dairy products. The new doctor is going to continue his career in the business sector, where he will carry go on working on the process designed in the laboratory, carrying out new experiments in the company's pilot plant.

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