Salov is the first company in Italy to use enzymatic degumming for refining peanut oil as a standard industrial process. A natural alternative to the conventional chemical process: innovative, sustainable and capable of improving the oil quality.

Salov announces the results of the study conducted with the University of Pisa on the enzymatic degumming process of peanut seed oil, which could soon be extended to other seed oils. A virtuous example of research aimed at improving the quality of oil obtained through a more natural and sustainable process.

Massarosa, July 11, 2022 - Can the fundamental process of degumming vegetable oils be made more natural and environmentally sustainable by using smaller quantities of chemical reagents and obtaining a better quality oil and higher yields as a result?

According to new research, published in the well-known food science journal Foods in April 2022, carried out by Salov in collaboration with the University of Pisa - Department of Agricultural, Food and Agro-Environmental Sciences and the Interdepartmental Research Center for Nutraceutics and Food for Health - it is possible.

And for Salov - a leading global player in the oil industry - it is already a concrete reality: Salov is today the first oil company to apply this innovative process to peanut seed oils in Italy as a production standard.

The importance and functioning of the enzymatic process

Degumming is a phase of refining vegetable oils that involves removing all of those compounds (phospholipids) that are naturally present in the raw oil, which cause defects in the product characteristics and can affect its proper preservation. It is a fundamental operation for achieving the best final product quality and can significantly influence the final yield.

Enzymatic degumming is one of the various techniques that is emerging as a valid alternative to the more classic chemical processes. By effectively removing the phospholipids, among the various advantages obtained as a result, the refined oil has improved sensory characteristics such as: clearer color, greater stability and resistance to oxidative rancidity, absence of opacity, all elements that indicate a total removal of the phospholipids.

The enzymatic process for degumming has relatively recent origins, as it was developed for the first time in the 90s and later resumed with ongoing new research.

Main results of the process

The results obtained from the initial laboratory and pilot scale tests and then confirmed by industrial trials show that the theoretical yield of the degumming phase has increased significantly, fully justifying the possibility of applying the enzymatic process in industrial practice. In the various trials carried out, different types of enzymes belonging to different classes of phospholipases were tested and compared, allowing the identification of the most efficient and adaptable enzymes to the specific industrial and plant reality in SALOV, based on the operational parameters used. In view of the results obtained, the possible industrial application of the enzymatic degumming process has been fully justified, both with respect to the increased oil yield and the feasibility of the process from an economic standpoint. The higher costs of the enzymatic process compared to the chemical process are fully offset by the increase in yield and the operational advantages that are recorded in the subsequent refining phases.

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In addition, enzymatic degumming also offers advantages in the management and disposal of by-products that are obtained downstream of this phase, namely "gums" (phospholipids). These are in fact lower in volume overall and significantly more fluid compared to those separated in chemical degumming, which leads to easier disposal and at the same time less maintenance of the centrifuges used for their separation from the oil, therefore less downtime required to clean the plant.

Within the collaboration with the University of Pisa, Salov also provided the peanut oils used in a second research project that showed that these can be used to sustainably protect cereals from the pest Sitophilus zeamais, known as cornweevil, one of the main pests of cereal crops in the field and stored products.

"We are proud of the progress that Salov is making in terms of research, innovation, and sustainability, pillars that guide our activity and distinguish us" says Mr. Fabio Maccari, CEO of Salov Group. *"The enzymatic degumming process is an example and a very important step in the journey we have been pursuing for several years."*

SALOV SpA was established in 1919 by Giovanni Silvestrini, a long-time business partner of Filippo Berio, the founder of the homonymous brand, and a group of entrepreneurs from Lucca. Quickly, the company became a reference point for Lucca in the world. Salov is based in Massarosa, in the province of Lucca, and is one of the largest oil companies with a consolidated net revenue of approximately 376 million euros and 120 million liters sold in 2021. Since 2015, it has been part of the Bright Food International Group.

The Salov Group has always been present in the Italian market with the historic Sagra brand and launched the Filippo Berio brand in Italy for the first time in 2019, a brand with over 150 years of history present all over the world and in leading position in the USA, UK, Russia, Belgium, Switzerland, and Hong Kong.

In Italy, Filippo Berio is present with a dedicated range, capable of responding to an increasingly demanding consumer in terms of quality and, above all, traceability and sustainability. Thanks to the Berio Method, each stage of the production process is traced and certified starting from the field and from the application of sustainable integrated production techniques.

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