HIGH PERFORMING ADVANCED MATERIAL PLATFORM FOR ACTIVE AND INTELLIGENT FOOD PACKAGING: CRONOGARD™

Results in Brief

New product dramatically improves the capabilities of food packaging

Keeping food longer on shelves will become an absolute priority for feeding the planet as the rise in temperature reduces crop yields. An EU initiative introduced an innovative product to significantly extend the life of packaged food.

The entire food industry supply chain is facing several challenges. More novel eco-friendly packaging solutions are needed because current environmentally friendly materials have poor shelf life protection properties. Food waste is another concern. According to the UN’s Food and Agriculture Organization, prolonging shelf life is the most effective way to reduce food waste. Safer packaging is also needed to safeguard consumers and their changing consumption habits. The demand for smaller portions and packed and ready-to-eat food is increasing. A longer shelf life means less contaminated, safer food.

Bringing new technology to the market
The EU-funded Cronogard project developed a patented technology that gives birth to a product family for treating raw materials used in the food packaging industry. This product line extends foods’ shelf life by up to 200%. “We transformed a laboratory proof of concept into a series of industrialised products that are ready for the market,” notes coordinator Célia Gavaud. “Starting from lab tests on substances capable of extending shelf life in a natural way, we worked hard on application techniques and finally delivered products that can be directly used in packaging manufacturers’ processing lines without needing special machinery or changes to the consolidated processes.”

Traditional polymeric materials for packaging food protect it from attack by external agents but are not very effective at preventing the development of biofilm. The project’s innovation reduces the formation of biofilm by as much as 50% on packaging surfaces. The protective and antibacterial activity inhibits the agents responsible for decay from forming inside the package. It is based on a compostable, recyclable filler developed to work with both plastics and cellulose, greatly enhancing these materials’ protective properties. The product preserves food even after the consumer opens the package thanks to its tray’s reclosable lid.

**Preserving the integrity of food**

The family of products are fully compliant with European regulations on food contact and packaging-permitted substances and processes. “This is noteworthy, considering that in recent years many new shelf life extension methods could not proceed to the commercialisation stage because they failed to match regulatory constraints,” explains Gavaud.

The entire value chain stands to benefit. Packaging manufacturers add value to their products, usually considered commodities. Retailers and food manufacturers increase the quality of packaged food and decrease waste. Thanks to a reduction in food waste and in the use of non-recyclable and eco-unfriendly substances, consumers enjoy safer, high-quality products.

Project partners have signed several memorandums of understanding with Italian and global leaders in the packaging sector to develop pilot productions according to their specific needs. “The application of fruit and vegetables on cardboard trays has successfully passed the final tests on behalf of a packaging manufacturer and a large retailer, and we expect that it will soon be adopted commercially,” adds Gavaud.

“The Cronogard product improves shelf life while preserving the characteristics of fresh food, keeping the colour, flavour and texture intact,” concludes Gavaud. “It meets the needs of both the fresh food and the food packaging industries.”
Cronogard®

Grant agreement ID: 783696

DOI
10.3030/783696

Closed project

EC signature date
20 September 2017

Start date
1 October 2017

End date
31 March 2020

Total cost
€ 1 576 240,00

EU contribution
€ 1 103 368,00

Coordinated by
NICE FILLER SRL
Italy

This project is featured in...

RESEARCH*EU MAGAZINE

The future of aviation: The only way is up
Discover other articles in the same domain of application

**SCIENTIFIC ADVANCES**

*Living labs bring agroecology potential to life*

8 December 2022

**SCIENTIFIC ADVANCES**

*Helping MedTech innovators navigate a river of regulation*

7 June 2022

**SCIENTIFIC ADVANCES**

*Bringing advanced lightweight metals to the market*

23 May 2023

**Last update:** 23 October 2020
