



Packaging Technology to make the consumption of fruits easier

- The EASYFRUIT project aims to extend the fresh-cut fruits' shelf life by means of the combination of active packaging and minimal processing treatments.
- Funded by the 7th Framework Programme of the European Union, the companies **PRODUCTOS LANDIA, SLICE FRUIT, SPEKTAR, OMNIFORM, CENTROS COMERCIALES CARREFOUR**, and the research centers **NOFIMA** and **ITENE** as project coordinator are creating this innovative active packaging for extended shelf life of peeled and cut fruit

Increased consumption of fruit and vegetables is important in order to combat obesity and prevent heart disease, cancer and diabetes. One of the most widespread recommendations is to consume 5 servings of fruits and vegetables per person per day, particularly amongst children and young people. However, consumption of fruits is decreasing daily.

To overcome this negative trend, a European consortium made of SMEs, a Large Enterprise and two Research Centers are working in a packaging solution to make the consumption of fruits easier. Fresh peeled fruit ready-to-eat and easily portable would be a solution for those who find in preparing and cutting this product an inconvenient, or those who have difficulties to peel it.

But the peeled and cut fruit has a too short shelf life which makes immediate consumption mandatory once the fruit is peeled. Consumers expect minimally processed fruit to be attractive, nutritious and to exhibit high quality and long shelf life, with no differences in flavour and texture from the original counterpart.

These expectations are difficult to meet, since minimally processed commodities undergo rapid deterioration that causes loss of texture and water, as well as undesirable changes in flavour and colour.

Some of these general solutions currently in use are; Modified Atmosphere Packaging (MAP), dipping the fruit in an active solution, and edible coatings. Nevertheless, none of these techniques provides a definitive solution to cut fruit, providing only slight increases in its shelf life.

EASYFRUIT solution

The proposed solution of EASYFRUIT is to combine the minimal processing treatments and develop an active packaging for fresh-cut fruit that extends the shelf life of peeled and cut fruit 3-5 days longer than currently used technologies.



These minimal processing treatments will be combined with liberation of active compounds, which will be incorporated to the package polymer matrix or as a coating. The packaging formulation and the active species will be selected and optimised for each fruit type, because each fruit has a specific route to deterioration, and the mechanisms that lead to the end of shelf life are different.

So the pre-packaging treatments and active packaging systems would address the specific weak points in the shelf life of each specific packed fruit, in this case of the pineapple and the oranges.

EASYFRUIT will contribute to open new export markets, generating better results in the companies' incomes as it will be able to reduce fresh fruit's losses. Socially, it will contribute increase the consumption of fresh fruits among the population, decreasing cardiovascular diseases and obesity. And finally, from an environmental point of view, it will reduce the waste generated by throwing away expired packaged cut fruits.

The consortium is based on a group of 4 SMEs, PRODUCTOS LANDIA (Spain), SLICE FRUIT (Denmark), SPEKTAR (Serbia), OMNIFORM (Belgium)- 2 research centers: the Packaging Transport & Logistics Research Center – ITENE (Spain), NOFIMA (Norway)- an a large enterprise, CENTROS COMERCIALES CARREFOUR (Spain).

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