



A new solution based on a microbiological culture capable of inhibiting the growth of foodborne human pathogens such as *Salmonella*, *Listeria monocytogenes* and *Escherichia coli* in fresh-cut fruit



BUSSINESS OPORTUNITY

Available for licensing

IP STATUS

1. US Patent granted (US 8,735,136)
2. European patent granted (EP2886665)

TAGS

Fresh-Cut Fruit, Human Pathogens, Foodborne, Fruit Industry, Bio-preservation

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NEW MICROBIOLOGICAL CULTURE TO CONTROL FOODBORNE PATHOGENS IN FRESH-CUT FRUIT

THE TECHNOLOGY

New microbiological culture with demonstrated bio-preservative activity.

The use of the proposed technology in the fresh-cut fruit industry prevents the development of food-borne pathogens, ensures food safety and maintains the product quality throughout the product shelf-life. This technology is complementary to existing preventive methods.

THE NEED

During recent years, production and consumption of minimally-processed fruits and vegetables have expanded due to its convenience, freshness and preserved health properties. However, currently used washing systems are not completely effective in reducing pathogen load on minimally-processed products, which have a direct use without any additional treatment. In consequence, the number of outbreaks associated with the consumption of these products has increased. Therefore, preventive measures to effectively reduce biological hazards are needed.

The use of bio-preservation techniques like the use of microbial cultures have shown to reduce the pathogen population on minimally-processed fruits and vegetables.

MARKET NEED

Sales of fresh-cut produce in the U.S. increase annually. Freshly cut fruit represents 12% and 72.4% of this products are delivered without any preservative. The total EU fruit and vegetable production is 120 million tons, of which 70 are used fresh.

The total European trade of fresh fruit and vegetables is increasing gradually year by year. The U.K. confirms to be the Europe's leader in the fresh-cut market sales, followed by Italy (FAO, 2010). In countries in which fresh-cut fruit & vegetables (F&V) is still emerging, the market growth in the last years was higher than other countries in which this market is already established, for instance Italy and the Netherlands.

ADVANTAGES

- › Ensuring **microbiological safety** while **preserving product quality** both at room and cooling conditions (from 5°C to 20°C).
- › **Maintenance of product shelf-life**, particularly if the chill chain is broken.
- › **Demonstrated effectiveness** for *Salmonella*, *Listeria monocytogenes* and *Escherichia coli* O157:H7 in fresh-cut fruit.
- › **Compatible with manufacturing technology** in the fresh cut fruit industry.

APPLICATIONS

To be used as biopreservative in the fruit industry, particularly in minimally-processed fruit.

It could also be useful in other ready-to-eat food.

LEVEL OF DEVELOPMENT

Pre-commercial validation