

NEW FRONTIER TECHNOLOGIES FOR FRESH FOOD CONSERVATION IN UNITED STATES

By Kim Assaël

The [new ingenious technology Edipeel](#) has been invented to fight the global food waste crisis by James Rogers, a material scientist and biomedical engineer, inspired by nature's strategy for protection and preservation of food.



[Apeel Sciences](#), the start-up business company based in Santa Barbara, California, USA, produces Edipeel since 2012 when received a grant from the Bill & Melinda Gates Foundation. Apeel Sciences develops *Edipeel*, a post-harvest solution to protect food surfaces from the environment and extend their shelf-life by slowing water loss and oxidation.



From strawberries to peppers, every fruit and vegetable has a protective peel or skin that nature uses to keep it fresh. The new plant-derived material, basically lipids and glycerolipids, naturally exist in the peels, seeds and pulp of all the fruits and vegetables that are already eaten every day. Made from plants, Edipeel adds an ultrathin extra "peel" to the surface of fresh produce to naturally slow water loss and oxidation, the factors that cause spoilage.



Edipeel is made from vegetable waste and by-products derived from the farming chain and usually thrown away, such as grape pressings, orange peels, tomato skins, watermelon rinds, leaves or stems.



From these materials the innovative process extracts microelements that are combined to create an optimal microclimate inside every piece of produce, protecting it from drying out and rotting. Following the same principle of a cell membrane, which is also, essentially, a lipid-based protective wrapper, acting as a natural protector for the fruits and vegetables, keeping moisture in and oxygen out.



The new product coating is completely colorless, odorless, and tasteless on produce.

The production process takes the oil contained in vegetable waste and turns it into a powder, which is combined with water and sprayed or applied on the surface of harvested produce. Edipeel is applied to freshly harvested fruit, by means of spraying or dipping or brushing according to the industrial production methods and exists in different formulations for the different plants to be treated. The product can be conserved at home without refrigeration too.

This natural peel leads to less food loss throughout the supply chain, and increased distribution with more sustainable modes of transportation. Avoiding harvesting before time, it offers growers the possibility to improve quality as long as a fresh produce tastes



better and contains a higher density of nutrients when it has reached a complete ripeness, and to extended freshness from the shelf and at home, without requiring controlled atmosphere, or artificial preservatives.

Apeel Sciences estimates that in consideration of the America's \$18 billion food waste problem (FAO), the use of Edipeel leads to the reduction of shrinkage by up 70% and maintenance of internal and external quality of the produce, staying fresh two to three times longer. Families have more time to enjoy fresh food and less ends up in the trash. Through a large-scale system for producers it is possible to quickly wrap hundreds of tons of fruits and vegetables. Fruits and vegetables coated with Edipeel are fully compliant with all U.S. Food and Drug Administration regulations.

Interested partners of Apeel Sciences range from smallholder farmers and local organic growers, to the suppliers, the retailers and to the world's largest food brands to make better quality and a more sustainable produce as possible. [In the video *The time is ripe*](#) the effectiveness of the process of conservation is illustrated. A media kit is available on the Apeel Sciences website, too.

To know more

[ApeelSciences.com website](http://ApeelSciences.com)

[Video in ApeelSciences.com](#)

[Video in Youtube](#)

[Apeel Sciences media kit](#)

[Article in forbes.com](#)

[Article in treehugger.com](#)

[Article in nytimes.com](#)

[Article in sciencemeetsfood.org](#)

[Article in foodnavigator-usa.com](#)

[Article in biofueldigest.com](#)

[Article in fastcompany.com](#)

