

## Italy: Innovative edible fruit coatings

Innovative edible organic coatings made using agri-food production waste to maintain nutritional values unaltered for longer without affecting flavour. This new concept comes from the University of Pisa, where a research group coordinated by Professor Annamaria Ranieri conducted an experiment whose results were published in the Journal of Food Processing and Preservation and LWT – Food, Science and Technology.

Annamaria Ranieri teaches Agricultural chemistry and her research focuses on using natural edible biopolymers to maintain the nutritional qualities of fruit unaltered during storage.

"As a scientific community, we are studying how to achieve virtuous and sustainable waste management. The objective is to supply produce with unaltered organoleptic qualities."

One of the two studies was conducted on Fuji apples. Researchers used gelatin as a coating, i.e. a collagen-based polymer obtained from the processing of connective tissue and largely used for capsules in the pharmaceutical industry. The second study focused instead on tomatoes, which were coated with chitosan, a polymer that derives from chitin, i.e. a substance found in the exoskeleton of shellfish and in fungal cell walls.

"The two coatings can be removed simply by washing the fruit and they slowed down harvesting by three days, as testified by the delayed accumulation peak of important nutritional compounds such as carotenoids, phenolic acids and flavonoids."

"A prolonged shelf-life could contribute to reducing food waste in different parts of chain from harvesting to consumption."

Lien article : <http://www.freshplaza.com/article/185217/Italy-Innovative-edible-fruit-coatings>