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Tailorpack: Active tailor made and eco-friendly packaging for fresh fruit and vegetable preservation

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Through a global and trans-disciplinary approach based on modelling tools, the Tailorpack project aims to design and dimension multilayered composite materials at a nanometric scale constituted by a fibres based support, protein and nanoparticles based layers for controlling mass transfer: gas, water vapour and active compounds. We present here the results concerning O2 and CO2.

Product knowledge

Product knowledge

- Availability of physiological parameters for virtual MAP building: RRO2, RR CO2, Respiratory Quotient and Q10 (multiplying coefficient for a 10°C increase).
- Availability of optimal storage atmospheres.
- Apparent Km for respiration is under validation for strawberry and apricot with new respirometers.

Modelisation

Modelisation

- Availability of packaging requirements according to virtual MAP
- Identification of O2 and CO2 permeability windows by using physiological parameters and optimal atmosphere

http://www.tailorpack.com

Validation

Validation

- At laboratory and pre-industrial levels, some packaging material have been elaborated and tested for their permeability characteristics.
- Transfer to industrial scale is under going and validation with F&V trials is planned in few weeks.

During 3 years, the Tailorpack project had led to collect a lot of data, to develop an internet website and to elaborate gluten/paper packaging.

Studies continue on layers by layers deposit, ethylene absorption and aroma compounds effects, with validations this year.

Tailorpack partners:

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