Food preservation with supercritical CO_2

Applicant	Università degli Studi Padova
Inventors	Sara Spilimbergo, Alessandro Zambon, Filippo Michelino, Stefano Polato
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What we are looking for

We are looking for a suitable partner to enter into license deal/co-development partnership

What it is needed for?

This invention uses supercritical carbon dioxide to pasteurize food, at temperature and pressure conditions that do not alter its structure or flavour. The process allows for longer product shelf life since it reduces the presence of bacteria in fresh food and preserves it colour, structure and nutritional properties

The most common method for food pasteurization involves raising the temperature of the packaging above 60°C: this method will inevitably alter the molecules sensitive to temperature that are especially present in fresh food. High pressure methods (thousands of atmospheres) can also inactivate microorganisms at room temperature, but as effective as it may be, it cannot be applied to fresh produce. This new patent has developed a process in which, after packaging food in a CO_2 rich atmosphere, the package is brought to super critical conditions at a temperature inferior to 50°C. This method will therefore not alter the molecules in fresh food: it will preserve the structure and texture and prolong its shelf life.

Advantages

- It reduces the presence of microbes;
- It preserves the structure of fresh and processed food;
- It preserves the nutritional elements sensitive to temperature;
- It prolongs shelf life;
- It increases food safety

Applications

- Food Packaging industry;
- Fresh produce packaging, whole or sliced;
- Fresh meat and fish packaging;
- On line grocery market potential

TRL scale

1 2 3 4 5 6 7 8 9

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