



FUTURE-FOOD - Faster Upcoming Technology Uptake Relevant for the Environment in FOODs Drying

Future Food aims at demonstration and first market application of an eco-innovative solution for sustainable food drying. The process makes use of high pressure CO₂ technology as drying medium which enables efficient drying at close-to-ambient temperatures in absence of oxygen. Research and development studies have shown its feasibility of being an ecological and economical alternative to freeze-drying, for products categories vegetables and fruits, specialty ingredients such as proteins and biopolymers. Besides good preservation of a food quality, microbial inactivation occurs in situ which attributes to ensuring food safety.

The main objectives are: (i) minimize risks that could prevent CO₂ drying to enter the market and (ii) to demonstrate its market replication potential via a first application to the market.

The base of the project is to provide on the one hand prototyped products and on the other prototyped process extensions that will increase the market potential. Prototyping processing elements will demonstrate the energy reduction of the process and the full width of applications at a pilot scale. By preparing three product prototypes the aim is to demonstrate the full potential of this technology to the industry at a food-grade level, resulting in validation of the process.

On the basis of the prototype assessments, in close conjunction with industrial (SME) parties, the process will be certified, (economically) validated and demonstrated to the industry. The final step is demonstrating the process in a near-operational environment to identify all the benefits for consumer and the food chain.

By doing so, the drying process will evolve from a TRL 4-5 to a TRL 8. By intensive dissemination to increase visibility, the technology will be disseminated to SME's in Europe to maximize uptake of the technology in the market and realizing impact on sustainability, food safety and economy.

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