

The Joint Technological Unit Qualiveg3 Integrated design of F&V processing routes: objectives, research projects and expected results

GEORGS. (1)

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The *Unité mixte technologique* (UMT - Joint Technological Unit) is a partnership tool shared by a Technical Institute and an academic lab, supported by the French Ministry for Food to promote collaboration and projects. UMT Qualiveg3 "Integrated design of F&V processing routes" is carried by the CTCPA and INRAE.

There is a lot of pressure on the actors in the food chain. Indeed, many constraints exist at the production level, such as global warming and the reduction of inputs, to which must be added the obligations of processing, such as the reduction of losses and waste, the limitation of ultra-processed products, the reinforcement of quality and finally the evolution of distribution methods. How do we do this when we want to improve the system in a holistic way?

In this context, the objective of Qualiveg3 is to *develop a coherent and complementary set of tools and skills for all production, processing and distribution/consumption routes and a multi-criteria evaluation strategy for the design of healthier and more sustainable processed F&V products.*

The specific challenges of Qualiveg3 are (i) *process innovation* by studying the processes or process combinations that will enable us to revisit the conservation and valorisation of co-products, (ii) *innovation in the evaluation of qualities* and their consideration in the life cycle of the product by characterise different dimensions of quality using innovative tools at different stages of the technological itinerary, (iii) *develop basic and global tools for performance comparison allowing to integrate the different dimensions of quality (such as nutritional, microbiological, environmental, ...)*

Three collaborative projects are already in progress (Tom'Health - Relationship between tomato growing conditions, processing and health effects / HiStabJuice – Establishing a strong and lasting international training network for innovation in food and juice industries: a 4D-research approach for fruit juice processing / DEMETER - Resource efficiency optimisation of 2nd class vegetables via biorefinery solutions to improve sustainability in the agrifood chain and climate change resilience).