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Agrio et Emulsio – New products development

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The project **Agrio et Emulsio** (POCI-01-0145-FEDER-023583, Sept 2017 to Feb 2019) presents a proposal in Food Design & Technology, in the areas of vinegar products (*Agrio*) and food emulsions (*Emulsio*). Combines its technical features and food pairing ability, with gastronomic traditions, *Nouvelle Cuisine*, concerns about food in health and unique location of ESAS in Ribatejo, where main vinegar and food emulsions' Portuguese industries stands. Started in ESAS in 2009, with fifteen final prototypes developed to date with students' participation, propose the development of new products who profile into the gourmet, diet or vegan/veggy markets, through sustainable methodologies that value regional raw materials and generates nobility, value and technical-scientific knowledge.

Technology and methods are divided into fermentative and non-fermentative prototyping: i) in premium quality and special vinegars, alcoholic substrates are subjected mainly to classical acetic fermentation in superficial culture; ii) in composed vinegar products and food emulsions - fruit fresh pack pickles, chutneys, jams in vinegar glazes, liqueur and spirit vinegars, flavored and fruity mustards and spreads, vinegars/vinaigrettes, marinades, meal replacements - non fermentative techniques are applied. Process assays articulates technical, analytical (physical-chemical, rheological, microbiological) and sensory tests. Stability tests are also performed. The project cycle ends with the production of prototypes in laboratory or small-scale pilot line, simultaneous with: demonstration of their quality, safety and shelf life; definition of strategies of marketing and also, food pairing & food design, predicting a future scale-up to industrial production and product entry on the market.

Prototypes are designed to provide innovation and convenience - long shelf-life and multiple food applications in industry/restoration - aiming the preservation of expensive/seasonal/surplus raw materials and valorization of byproducts, ensuring, simultaneously, good practices and food safety. Given project's maturity, technological scope is flexible and outputs (prototypes) are adjustable to the stakeholders' needs, considering business clusters' partnerships and consortium skills. The demand for exquisite products as purchase decision factor, make believe in its potential growth. At present, they are undergoing experimental development, fruity mustards (with nectarine, with berries), sweet potato pickles, fruit/vegetable spreads (with strawberry, with pumpkin), a spirit vinegar and a distilled vinegar of vinous origin.

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