



KEY TECHNOLOGIES

Sensory and Aromatic Quality of Food

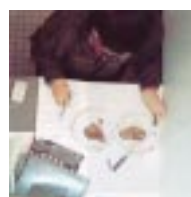
Key words: *flavours, sensory profiles, olfactometry, hedonic approach*

Subject 1 : The sensory and physical and chemical characterisation of the aromatic quality of fermented products (soft cheeses / cider-based products) are addressed.

- ▶ Characterisation of key olfactory compounds using gas combined with olfactometry
- ▶ Identification of different compounds (partnerships: INRA and ERPCB Caen laboratories)
- ▶ Sensory profiles of the relevant products by a panel of experts
- ▶ Statistical correlation (ANOVA, ACP) between the physical and chemical composition and the sensory characteristics

METHODS, SKILLS AND EXPERTISE

- ▶ Extraction: liquid-liquid, resin, vacuum distillation, and Headspace. The methods are selected according to the different food matrixes
- ▶ Chromatography coupling in gas/olfactometry phase. This method can pinpoint the molecules with a sensory impact, in a complex mixture. It highlights the compounds related to product quality or those directly related to one or several sensory defects
- ▶ Descriptive (qualitative and quantitative) sensory analysis: detailed sensory profiles (flavour, odour, aroma) are drawn up. Panels of experts: : Ciders and must (wine) or wort (beer), Calvados (cider spirits), Dairy products (butter, Camembert)
- ▶ Hedonic approaches: acceptability of the products by a consumer panel (base-panel of 3,500 individuals)



HUMAN POTENTIAL

- ▶ 15 people
- . R&D 'Flavours' Team
- . Sensory Evaluation Team

SCIENTIFIC EQUIPMENT

- ▶ Varian CP3800 chromatograph coupled with olfactometry (SGE System)
- ▶ Varian CP3800 chromatograph for routine assays (beverages, cheeses, and so on)
- ▶ Delsi DI 700 chromatograph for routine assays (fatty acids)
- ▶ Tekmar 2000 headspace machine
- ▶ Laboratory of standardised sensory evaluation (2 x 20 booths)
- ▶ Statistical software: SPAD, Statgraphics, Statitcf, and Fizz

APPLICATION EXAMPLES

- ▶ Identification of the molecules creating the flavours in spirits
- ▶ Establishment of a sensory profile of the main varieties of the apples sold in France
- ▶ Set-up of a panel in an agrifood company to control the sensory quality of the products made by the company

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