

Processing in Person: Keeping It Fresh (Part I)

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***Chem.Info's* recurring Processing in Person feature highlights a processing company that stands above the rest for the implementation of strategic processing techniques and the production of high quality goods. This week, we're focusing on juice processor Hoogesteger in the Netherlands.**



Through a unique partnership only possible in the Netherlands, Hoogesteger juice company and Wageningen University have partnered to create and implement a process by which unpasteurized juice is treated with high voltage pulses, extending shelf life by two weeks.

The triple helix. The golden triangle. The Dutch government uses many names to describe its unique three-pronged approach to economic development, but one thing's for certain: for companies seeking innovation, the system can offer tremendous benefits.

The Dutch have identified several high value areas of their economy designated for attention, research and collaboration. Among these is the food industry, which has a strong presence in the Food Valley region of the Netherlands.

Food Valley houses a concentration of international food companies as well as Wageningen University, the preeminent university for food research and innovation. Through government facilitation, university research and corporate innovation and implementation, the Dutch create the three strands of their helix, the three corners of the triangle.

Open innovation is key to the success of companies in Food Valley and those across the Netherlands seeking to benefit from such a system. In 2008 Dutch juice company Hoogesteger joined NovelQ, an open innovation project funded by the European Union (EU) and aggressively researching food processing techniques that extend shelf life, increase quality and improve sustainability.

The Hoogesteger Mission

Hoogesteger was founded in 1985, and since then has been producing fresh juice and smoothies for sale across the Netherlands. According to information obtained by Wageningen University, the company produces nearly two million gallons of juice for sale to the Dutch market, 60 percent of which is orange juice. The company has long recognized the superior quality, flavor and nutritional benefits to be delivered from fresh, un-heat-pasteurized juice, but the shelf life constraints of such products created real logistical challenges.

Through the NovelQ program, Hoogesteger joined forces with Wageningen to develop and implement a pulsed electric field (PEF) system for shelf life extension. PEF technology had been developed decades ago but had yet to be perfected and implemented for application in the beverage market. Michiel van 't Hek told Wageningen's alumni magazine, Wageningen World, that, "We wanted to know whether this technology was suitable for fresh juice. Are the microbes deactivated enough, and do the nutritional value, vitamins, flavor and aroma remain reasonably intact?"

Hoogesteger was about to find out. PEF technology was used to create a Fresh Micro Pulse (FMP) process, which optimized the PEF technique for liquid and semi-liquid media.

Tomorrow... Introducing PEF

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