UABDIVULGA
BARCELONA RECERCA I INNOVACIÓ

01/2012

New system preserves liquids at room temperature

The UAB Food Technology Plant Special Research Centre (CERPTA) has designed a new system capable of sterilising and stabilising liquids at high pressure, thus allowing them to last longer at room temperature and reduce the use of additives to preserve organoleptic qualities. The technology also protects the bioactive components of foods. To commercialise the product, CERPTA and UAB created YPSICON, a technology based spin-off company.

The Ultra High Pressure Homogenisation (UHPH) system can be applied to all types of liquid products and is particularly appropriate for food processing. Buenaventura Guamis, Director of CERPTA and Professor of Food Technology at UAB, points out that the system is ?totally new and only comparable to the UHT system (sterilisation at ultra high temperatures), but with the added advantage that not only does it sterilise, it also reduces thermic risks and favours stability. This allows us to reduce or eliminate additives commonly used to preserve taste, flavour, texture and smell."

The system also protects the bioactive components of foods, such as vitamins or polyunsaturated fats, through a capsuling process which increases their resistance to factors

which can alter them.

The new technology consists in a combination of dynamic high pressures and homogenisation. This technology can be clearly differentiated from Hydrostatic High Pressure (HHP) technology, given that HHP depends fundamentally on pressure and only pasteurising foods - which later must be refrigerated. In contrast, UHPH combines different effects of mechanical and temperature pressure to sterilise and stabilise food. This enables food to be maintained at room temperature for six to nine months and preserve all the nutritional benefits of fresh food.

The commercialisation of the machines, which can process 15 and 100 litres per production hour, began in January through the spin-off company YPSICON. The first stage will include commercialisation with small and medium-sized companies of the food, pharmaceutical, chemical and cosmetic sectors. Machines with greater capacity will be made available shortly for large-sized companies. An initial investment of 100,000 Euros was needed to start the spin-off. YPSICON currently is in the process of patenting the new technology.

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