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### New pack to give functional drinks a healthy boost 30 Aug 2005

One of Spain's major dairy companies is looking to revolutionise the growing functional drinks sector with a system that traps bacteria within nanobiocomposites to keep the probiotic bacteria intact.

The unnamed dairy company is working with Spanish start-up Nanobiomatters and the Spanish

Institute of Agrochemistry and Food Technology IATA CSIC to test that the bacteria works with certain dairy and juice products and remains functional until it reaches the designated spot – the colon.

CSIC project coordinator Dr José Lagaron explains the problem with the direct use of probiotics in the food is the spoilage of the food, the loss of bacteria counts during product handling and shelf-life, and the significant killing of bacteria in their passage through the acidic conditions in the stomach.

The aim of the new technology is to protect the good bacteria until it enters the body.

The healthy enzymes will be either applied to the substrate using a coating technology or melt processing technologies to attach specific strands of bacteria to the packaging.

The coating technology will make use of the tailor-made biopolymers obtained from genetic engineering of microorganisms, adequate edible polysaccharides, proteins and lipids and specific nanobiocomposites.

To release the probiotic bacteria, Nanobiomatters and the unnamed dairy company will consider the design of new packaging articles or the use of existing packaging articles already in the market, such as straws and specifically engineered closure fits.

These designs, which have a long shelf-life, would retain the encapsulated probiotics separated from the food product right up to the moment of consumption.

Lagaron says there has been a lot of interest from dairy companies, particularly in Spain and France, looking to commercialise the technology due to the increasing demand for functional foods.

The technology could be commercialised within one to two years providing the trials are successful and the technology is patented.

Nanobiomatters, headquartered in Valencia, is focused on developing and producing tailor made nanoadditives for plastic materials and biocompatible functional biomaterials for industrial applications.

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