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NEWS FOCUS: PECTIN

Pectin: Health ingredient of the future?

By Stephen Daniells, 17-Jun-2008

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At a recent conference on hydrocolloids the discussions were dominated by health and price. In the first in a special series, FoodNavigator examines the potential opportunities and challenges for pectin for health.

IMR International's Hydrocolloids Conference, which took place in April in San Francisco, California, merely echoed the noises already coming from key industry experts - that the rise in [health](#) and wellness, a 'sea of change' in the food industry, is creating opportunities for hydrocolloids in general, and [pectin](#) in particular.

Extracted pectin (E440) with worldwide production estimated at 35,000 tonnes a year, is currently widely used as gelling agents in jams, confectionary, and bakery fillings, and stabilisers in yoghurts and milk drinks.

But beyond their functional application, Dr Esther Hunter from CPL Business Consultants says there is a lot of potential for hydrocolloids, including pectin, to be developed as health ingredients.

"If hydrocolloid companies do not become more proactive in their approach to the functional food market then many are in danger of simply becoming commodity suppliers; other companies will reap the higher value that can be generated in the health and nutrition sector, an area marked by growing opportunity and general awareness," she said.

In the wider hydrocolloids arena, there are already examples of companies that have successfully developed the market for soluble fibre and digestive health, for example. These include Danisco with its Litesse polydextrose, Beneo-Orafti with Beneo inulin, CNI with Fibregum acacia gum, Taiyo with SunFiberGum partially hydrolysed guar gum, and National Starch with H-Maize resistant starch.

Players in the pectin field are starting to eye the health ingredients market. But before anyone goes anywhere near pronouncing any kind of health benefits, the science must be built up. And for pectin, the science has indicated a potential prebiotic effect, an important fibre content, and potential cardiovascular benefits by lowering LDL cholesterol

Despite this growing body of science, pectin producers *"have been hesitant about promoting the potential nutraceutical effects of their products,"* said the authors of a recent review of research.

"However, if convincing evidence of the health activities of defined pectic domains is demonstrated then this may change," wrote William Willats from the University of Copenhagen, Paul Knox from the University of Leeds, and Dalgaard Mikkelsen from Danisco in the journal *Trends in Food Science and Technology* (2006, Vol. 17, pp 97-104).




Keeping an eye on the science

Ralph Appel, the business unit leader at [Cargill](#) Texturizing agrees that pectin producers are monitoring this field, but with due caution. *"Today we acknowledge that the scientific evidence concerning the health benefits of pectin is pointing in a positive direction and may well benefit several biomarkers that influence cardio-vascular and digestive functions.*

"However, many more human studies are needed before this can lead to health claims in Europe or other parts of the world."

This was endorsed by Pierre Perez, product director of food gums for CP Kelco. *"For the potential health benefits of pectin, both food processors and CP Kelco*

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need to ask, how solid are the claims and if they are not solid enough what needs to be done?

"This might require randomised clinical trials, and may engage large amounts of resources and funds. These need to be surveyed and analysed before anyone engages in claims."

Perez also added that the majority of studies around pectin as a health ingredient have been performed at university and laboratory level, but not scaled up or applied in industrial terms.

"If you dig into this you find that most of the time the use of high concentrations [that are needed to produce a physiological effect] are not feasible practically in a food," he said.

According to Dr. Steve Bodicoat, marketing and innovations director for CP Kelco, a number of standard major Fast Moving Consumer Goods (FMCG) food companies looking at the use of pectin as a health ingredient "to a higher or lesser extent".

But he cautioned that "you need to eat quite a lot of pectin, and there is a difficulty in consuming this amount.

"We have no plans to position pectin as a functional/health ingredient."

Spain's Obipektin, a division of Natraceutical, has taken a different stance and has positioned its highly methoxylated apple pectin (HMAP) as a health ingredient.

A team of representatives from Natraceutical said: "Our HMAP is a healthy ingredient. But if the manufacturer doesn't use the right process, HMAP can lose some properties."

Importantly, the ingredient reportedly has a low viscosity, which is very important, says Dennis Seisun from IMR International, a consultancy that publishes the Quarterly Review of Food Hydrocolloids.

"A major barrier to using hydrocolloids as health ingredients is getting the quantities into the product to produce a physiological effect. Addition of more than two to three per cent normal pectin and the product becomes too viscous," he said.

Tomorrow, FoodNavigator will look at health claims and labelling for pectin.

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