

The chicory plant is used to produce the fibre inulin

Fibre's new frontiers

The food industry is pushing back the frontiers of fibre, reformulating products to add fibre from both traditional and novel sources

by Valerie Ward

Fibre may not be glamorous, but it finally seems to be getting the respect it deserves. As a result, high-fibre cereals, pastas, baked goods, dairy products and even beverages are multiplying on retail shelves. And according to a recent survey by the Montreal market research company CROP Inc., 40 per cent of Canadian consumers say they regularly choose high-fibre products when they're available.

Industry experts believe that the market for these products will continue to grow. For one thing, most Canadians still have trouble consuming even half the 30 g of fibre a day recommended by Health Canada. For another, a substantial body of evidence is persuading people over age 30 – and baby boomers in particular – that fibre consumption is linked to better health. For example, soluble fibre, which dissolves in water and binds with cholesterol and fat, has been proven to lower blood cholesterol levels and reduce the risk of heart disease, while insoluble fibre helps maintain

intestinal regularity. In addition, some dietary fibres act as probiotics (micro-organisms that enhance colon health) or prebiotics (ingredients that stimulate the activity of probiotic bacteria). Fibre is also digested more slowly than other carbohydrates and creates a sense of fullness sooner, assisting with weight management. For people with Type II diabetes or a pre-diabetic condition, it promotes healthier blood sugar levels. Furthermore, studies have shown that fibre may prevent certain bowel and breast cancers.

With consumers eager to reap the benefits, the food

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industry is pushing back the frontiers of fibre, reformulating products to include fibre from traditional and novel sources. Traditional fibres include whole grains such as corn bran, oat bran and coarse and medium wheat bran. They also include whole foods such as fruits, vegetables, traditionally milled grains, legumes, nuts and some seeds such as flax.

Many companies compete in the traditional fibre market, selling ingredients or incorporating them into baked goods, pasta and snack foods. But there's a hitch: even at moderate levels, traditional fibres can alter the flavour of a product, darken it or change its texture, says Dr. John Michaelidis, director of Technical Services at the Guelph Food Technology Centre (GFTC) in Guelph, Ont. "Consumers want health benefits but they also want foods that look and taste good. Manufacturers are experimenting with their formulations to develop products that meet consumer expectations."

To overcome the limitations of traditional fibre, manufacturers are turning to novel fibres. Health Canada defines a novel fibre as one that isn't normally eaten, has been chemically or physically processed, or has been highly concentrated from its plant source.



While some challenges remain, the market for fibre seems likely to flourish.

Inulin is a novel fibre that's gaining momentum in this country. Recognized as a dietary fibre for years in Europe and the U.S., inulin – specifically, a product by ORAFTI called Beneo – was approved as a fibre in Canada in March 2006. Derived from the chicory plant, this soluble, prebiotic ingredient is associated with better gut health, increased absorption of calcium and magnesium, and lower blood glucose and cholesterol. Besides the health benefits, Beneo offers formulation advantages, says Carmen East, the Burlington, Ont.-based product manager for Quadra Chemicals, which represents ORAFTI in North America. "It doesn't change texture or taste, and it helps

replace fat in products such as ice cream or chocolate." As a result, she says, the ingredient is versatile enough to be added to everything from fruit juice to processed ham.

Since inulin's approval in Canada, demand has taken off, says Rob Kowal, president of Mississauga, Ont.-based Kriscor & Associates, which markets ingredients from companies such as Weetabix and Sensus America (Frutafit Inulin) to food processors. "Manufacturers are interested in using inulin in dairy products, baked goods, cereals, even baby formula, as a fibre and prebiotic."

Two products with inulin introduced earlier this year are Dempster's WholeGrains Prebiotic Breads from Canada

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Bread Fresh, and Beatrice Vitalité, a prebiotic milk beverage from Parmalat. Spokespersons for the companies say inulin not only offers consumers healthier options, it's easy to integrate into production. "We don't have to change anything," says Luisa Fernanda Nino, brand manager for Beverages at Parmalat Canada. "We simply add the inulin using blenders during regular milk processing."

In addition to inulin, Health Canada has approved oat fibre, sugar beet fibre, psyllium seed husk, and other novel ingredients. But while many more are waiting in the wings, the regulatory process can be lengthy. "Applications are approved on a case-by-case basis, involve numerous scientific and clinical studies, and are often tied to a specific brand of fibre," says Michaelidis.

While there's nothing to stop a manufacturer from using a novel fibre, these ingredients can't be declared as dietary fibre on nutrition labels. "Given the importance consumers place on nutrition labels, manufacturers won't use an ingredient without the fibre designation," says Bill Ruderman, vice-president of the Foods division at Brampton, Ont.-based Nacan Products. One of the ingredients that can't be labelled as fibre is Solka-Floc, a powdered functional cellulose supplied in North America by International Fiber Corporation, based in North Tonawanda, N.Y. Accepted as dietary fibre in other jurisdictions, the product can be used in foods such as icings, fillings and cheese without special formulation. At the moment, however, it's only approved in Canada as a bulking agent in shredded cheese. "It's up to the regulatory people now," says the company's regional accounts manager Sid Arends.

Resistant starch hasn't been able to enter the Canadian fibre market either. An insoluble fibre typically used in baked goods, bread and pasta, it doesn't alter a product's taste or colour and is approved in the U.S., the EU, Japan, Australia and New Zealand. In 2002, Nacan Products asked Health Canada to approve its Hi-Maize resistant starch as a dietary fibre. Despite submitting extensive evidence to demonstrate the

ingredient's health benefits and efficacy, Hi-Maize didn't fit Health Canada's definition of fibre and approval was denied. "The only avenue left is to request approval as a novel fibre, but this means a three- or four-year wait," says Ruderman. "Unfortunately, the Canadian consumer loses out."

So while some challenges remain, the market for fibre seems likely to flourish. "We expect consumer demand

for these products will continue to grow," notes Andrew Pollock, vice-president of Marketing at Canada Bread Fresh. "The Canadian population is aging, becoming more health-aware, and driving the demand for healthy foods. As the science catches up with the ingredient offerings and regulations catch up with the science, we should see many more healthy nutrition products in Canadian grocery stores." [EC]

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