

European industry group kicks off “bread of the future”

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European industry group kicks off “bread of the future”

A collaborative venture of Europe’s leading bakery groups and grain experts, lead by Dutch research organisation TNO, aims to give bread in Europe a health turbo-boost, with a focus on the natural nutritional benefits of grains, with higher antioxidant activity, more fibre, better taste and an appealing emotional story for the consumer. Products are already coming to market in Germany, Italy and elsewhere. By PAUL GANDER.

The final conference of the EU-funded HealthBread project this September was an opportunity to draw together the insights and technologies developed over the two years of the project – and during the HealthGrain project which preceded it – and present results in the form of added-value, commercialised wholegrain breads. These are products that contain key nutrients in sufficiently well-defined proportions to permit specific health claims, highlight the importance of fermentation and bioavailability, and are already attracting new groups of consumers to healthier baked goods.

A LESSON IN TECHNICAL “TRICKLE DOWN”

HealthBread was coordinated by Dutch research organisation TNO. As consultant Jan Willem van der Kamp explains, it has led to the development of a network of technical experts, flour mills, bakeries and ingredient businesses in each of the national markets involved. In Italy and Germany/Austria, some of those businesses have acted as mentoring partners for the various bakers taking part.

Arguably, the project has as much as anything been an object lesson in how to structure and manage technical ‘trickle down’ from third party R&D via ingredient experts and suppliers to small-to-medium-sized enterprises (SMEs).

The premise underlying the newly-launched products is that up to now,

European consumers wanting to eat more healthily have been put off by the dark colour and sometimes bitter flavour notes of wholegrain breads. At the same time, they might well have been unsure what the precise nutritional benefits were. They are likely to have been unconvinced by those white breads on offer with added non-grain fibre.

“The most authoritative agencies say we should eat naturally available fibre,” says van der Kamp. “They’re not sure about the benefits of added, purified fibres. For example, there are fibre-related health claims approved by the European Food Safety Authority (EFSA) for grain products, but not for fibre such as inulin.”

HealthBread mentoring partner in Italy and technology transfer business Open Fields points out that the breads developed in Italy are high in fibre (at least 6%). But the nutritional backdrop

in the country is very different, says project manager Silvia Folloni: “Overall, fibre consumption is much lower than the 25g recommended by the national nutritional guidelines.” Open Fields estimates that just 1% or 2% of Italian consumers regularly purchase wholegrain bread.

As TNO explains, in standard wholegrain bread, the ratio of endosperm to bran and the overall amount of fibre are dependent upon a number of variables, including the varieties of grain used. “But with regular, defined fractions, you can be clear about what health claims you are able to make,” says van der Kamp.

This is important for fibre claims, but is perhaps even more significant at the level of micronutrients. “For example, there are approved EFSA claims for iron, magnesium, zinc, phosphorus, vitamin B1 and folate,” he says. “In some countries and

KASSES VOLLWERT LAIB HEALTH BREAD

- With the whole grain plus
- With fermented wholemeal wheat flour
- High bioavailability of nutrients
- High indulgence

COMMERCIALISATION CASE STUDY

demographics iron deficiency is a concern, and of course, folate is especially beneficial for women in pregnancy.”

The years of research under the HealthGrain and HealthBread projects culminated in a focus in two main product areas: an aleurone-rich fraction and a wholegrain concentrate with a light colour and mild taste developed by German ingredients company Kampffmeyer, now GoodMills Innovation, part of the Vienna-based GoodMills milling group and a HealthBread mentoring partner.

BETTER TASTE, PALER COLOUR

“It’s about using ‘normal’ white or wholegrain flour, but adding a special fraction from the aleurone layer in the grain, which is where many of the most important nutrients are concentrated,” van der Kamp says.

GoodMills MD Michael Gusko stresses other benefits of a focus on the aleurone fraction: “It offers better taste, since there is less of the bitter cellulose from the outer layers, and of course it is very clean in terms of contamination with mycotoxins or pesticides.” It yields a paler colour than traditional wholegrain.

The nutritional value of aleurone is also better appreciated now. Gusko quotes Prof Gary Fulcher of the University of Manitoba, Canada, as saying: “This layer is not only unique, it is the primary source of bioactive effects conferred by whole wheat products. It is the core of whole-wheat benefits.”

TNO’s van der Kamp explains: “When you use the whole grain, and in particular the aleurone, you bring in a lot of ‘fellow passengers’, especially antioxidants such as betaine and choline. They may not benefit from health claims within the EU, but there is a widespread understanding that there is an entire collection of phytonutrients which work positively

RIPKEN’S HEALTH BREAD

Ripken’s Vollwert Riese is a wholemeal bread characterized by a double fermentation of the whole grain. The dough is left for a 48 hour proving time, to develop its rich aroma. It has a juicy crumb and prolonged freshness. According to the manufacturer the 18% dosage of the fermented wholegrain concentrate gives the opportunity for using several health claims.

TABLE 1: NUTRITION SNAPSHOT FOR RIPKENS VOLLWERT RIESE

- fermented wholemeal wheat concentrate
- water
- wheat sour dough (wheat flour, water, starter culture)
- apple
- malted rye flakes
- sea salt
- yeast
- apple fibre
- gluten
- soy lecithin

Energy	965kJ / 228kcal
Protein	17,7g
Carbohydrates	41,5g
- of which sugars	2,7g
Fat	4,2g
-of which saturated fatty acids	0,8g
Dietary fibre	6,8g
Salt	1,7g
Vitamin B9 (folate)**	37,2 µg
Iron	2,9mg
Zinc	1,6mg

*The data are subject to deviations commonly occurring in natural products.
**Folate contributes to normal immune system function.



• We are „grain-healthy“

• One of the most healthy breads in Europe: Ripken’s Vollwert Riese

• Whole grain +

• With valuable antioxidants
• High bioavailability
• High indulgence

COMMERCIALISATION CASE STUDY

Nor are the vitamin and mineral-related claims the real story, he argues. “For legal reasons, you need these claims regarding ‘improved immune function’, for instance, but the real story is the emotional one about containing ‘the best of the grain’,” he says. “Marketing communications have focused on the intrinsic health benefits of fermented wholegrain.”

He adds: “Mentioning HealthGrain and HealthBread gives the baker credibility and is a great help in communications.”

As an ingredient supplier, GoodMills can talk about these breads having 70 times the antioxidant activity of standard wholegrain products. EU regulators will not permit bakers to claim ‘antioxidant activity’ but allow references to ‘increased bioavailability’, he says.

“THE BREAD OF THE FUTURE”

The German bakeries with commercialised product are Ripken and Lasser. But the Vollwert Laib product from the Kasses bakery in Austria has arguably made the most of all these communication opportunities, and has seen some of the liveliest press and TV interest. As well as these claims, the label uses the ‘Wholegrain (Vollkorn) Plus’ ingredient brand, and calls the product ‘the bread of the future’.

But whose future? Longer-term, are these ingredient and process developments that will benefit local and regional SMEs in the bakery business, or their industrial competitors typically supplying at national level?

INNOVATIVE AND TASTY

For Open Fields, the challenge for artisanal bakers is to be able to present innovative products which are still tasty. “Competition with retailers and industrial bread companies is strong in Italy, and poses a serious threat to their

survival,” says Folloni, noting that this is against a backdrop of falling overall per capita consumption.

In July, northern Italian bakeries Fusè (near Varese) and Regazzoni (Lecco) respectively launched their Salutello (from ‘salute’, health) and FibraPiù (Fibre Plus) products. Consumer feedback was collected via a questionnaire, and these products have now been added to their ranges. Open Fields has since successfully guided two more bakers, both based in Parma, through a feasibility assessment. Other bakeries have expressed interest.

Of the four Italian bakeries involved in the project, two have adopted the aleurone-rich ‘special’ wheat, says Folloni, while the others are using the wholegrain concentrate.

In Germany and Austria, two of the three bakeries involved in the project have used the wholegrain concentrate, while one has opted for the wheat aleurone fraction.

The role of Open Fields has been interesting. The company was only established four years ago, but MD Roberto Ranieri was formerly a board member on the HealthGrain project while working for Barilla. “Open Fields inherited from HealthGrain an excellent network of food companies and European cereal scientists,” Folloni explains.

During HealthGrain, Ranieri dealt with processing and the development of new cereal fractions. “This knowledge formed the basis of our work as leaders in HealthBread’s processing work package, where we have had the chance to realise and industrialise previous research results,” says Folloni.

As a mentoring partner, Open Fields has acted as intermediary between the individual bakers and other project partners, helped in the choice of ingredients and product development, worked up marketing concepts and assessed the nutritional profile of the finished breads. “In the future, we would

like to help new bakers by supplying training, marketing and nutritional support, while also guaranteeing that HealthBread quality standards are met,” Folloni states.

At TNO, van der Kamp indicates that so far, Dutch commercial partners have hesitated to pilot any products due to concerns about the consumer’s willingness to pay a premium. But Gusko at GoodMills points out that, although bakers involved in the project have formulated with a generous 18% of wholegrain concentrate, claims could still be made if the proportion was as low as 2% or 3%. “It would still have double the antioxidant activity of standard wholegrain bread and 30% more fibre,” he says.

He sees opportunities in the ‘best of both’ type of market area where Northern European industrial bakers have already had some success.

BOOSTING THE HEALTH IMAGE OF CEREAL

There are wider issues underlying the project regarding the relative health profiles of grains on the one hand and fruit and vegetables on the other. Gusko calls the European Prospective Investigation into Cancer and Nutrition (EPIC) the “largest ever European epidemiological nutrition study”. It finished in 2000, having analysed data from half a million people in 10 countries and “proven that cereal consumption is superior to fruit and vegetable consumption when it comes to preventing cancer”, he reports.

Despite this, cereals have nothing like the healthy image enjoyed by fruit and vegetables. “In fact, the intrinsic value of cereals is superior to nearly every other food,” says Gusko. Perhaps the commercial ‘fruit’ of the HealthBread project will begin to reinforce that message.

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