

Better baking

INCREASED CONSUMER INTEREST IN HEALTHY EATING, FUELLED BY INTENSE MEDIA ACTIVITY SURROUNDING OBESITY HAS LED TO INCREASED DEMAND FOR HEALTHIER ALTERNATIVES

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+ Currently, the bakery industry is trying to align itself more with the better-for-you trend. Bakers are keen to take advantage of this opportunity and are reformulating their products to decrease fat content while retaining or improving taste, functionality, mouthfeel and the indulgent image associated with baked goods.

Functionality with fats

Trans fats have come under scrutiny recently for their potentially negative health effects. Subsequently, many manufacturers and retailers are reducing the amount of trans fats in their products. According to the UK Food & Drink Federation (FDF), over £1.5 billion worth of food products in the UK alone are currently being reformulated to eliminate trans fats.

Many baked goods contain both trans and saturated fats to improve functionality. In pastry applications, for example, trans fats and saturated fats are used because their solid structure helps to create the desired texture. Liquid oils cannot solely be used in pastries, as they make the pastry break up and crumble. Therefore, to remove trans fats and avoid an increase in saturated fats without affecting functionality, a viable alternative must be found.

Ingredient manufacturers are offering low trans alternatives and some, such as Archer Daniels Midland Company (ADM), have developed a number of functional low trans fats and oils for a wide range of bakery applications.

Fractionation

One option that obtains optimum texture in baked goods is fractionation. This process physically separates the trigly-

Archer Daniels Midland Company (ADM)

Archer Daniels Midland Company (ADM) is the world leader in BioEnergy and has a premier position in the agricultural processing value chain. ADM is one of the world's largest processors of soybeans, corn, wheat and cocoa. ADM is a leading manufacturer of biodiesel, ethanol, soybean oil and meal, corn sweeteners, flour and other value-added food and feed ingredients. Headquartered in Decatur, Illinois, ADM has over 26,000 employees, more than 240 processing plants and net sales for the fiscal year ended June 30, 2006 of \$37 billion. Additional information can be found on ADM's Web site at www.admworld.com. +++

cerides by means of their different melting points. Fractionation produces no trans fats. Fractionated fats perform as well as trans versions in a number of bakery applications, including pastry, cakes, muffins and biscuits.

Low trans options including a shortening for cakes and short pastry with up to six month shelf life offers good mouthfeel and flavour. For puff pastry, a low trans pastry margarine that also contains low salt levels can be supplied. A low trans cake margarine which is free from emulsifiers also offers a clean taste profile and is suitable for dough fats and short crust pastries.

Improving products with protein

Enhancing the flavour, texture and appearance of baked goods when reducing the content of other ingredients can be a challenge. Functional protein ingredients, including soya and wheat, can add value to bakery products in terms of the nutritional profile and functionality.

Wheat protein isolates, such as ADM's Prolite™ range, increase the protein content of bread without altering flavour. They also reduce bitterness in whole grain applications and improve dough rheology, proofing times and sheeting performance. Using ProFam™ isolates means less flour is required, which reduces the carbohydrate content of the end product. ADM Milling has successfully included this ingredient in pizza dough.

Soya protein concentrates increase the protein content of baked goods. These specialty ingredients are manufactured using a traditional process to remove soluble sugars and antinutritional factors. Soya flours with active enzymes enhance the nutritional content, flavour and appearance of bread. They can also help to whiten crumb and improve texture. It

can provide bakers with the benefits of full fat flour and help improve the taste profile and help retain moisture, thereby improving the shelf life of the end product by retarding staling. Soya flours can also act as a barrier, reducing fat uptake on frying – a key requirement when creating healthier products such as reduced fat doughnuts.

A natural ingredient to improve functionality in baked goods is soya lecithin. An emulsifier, lecithin can be used as an aerating agent, viscosity modifier, dispersant and lubricant. In cakes, lecithin improves crumb texture and facilitates moisture retention. The ingredient also ensures even mixing, increases shortening effect and decreases the stickiness of doughs. Lecithin is also known for its ability to improve texture and mouthfeel.

Rising to the challenge

The choice of flour is particularly important when creating the perfect baked product. The texture and flavour of pastry, for example, is dependent on the flour used. For products such as pies, appearance is an important factor to entice consumers. In cakes, consistency, texture, moisture retention and appearance are linked to flour selection whereas wholemeal breads and rolls require a flour that displays high tolerance levels through rigorous processing.

Easi-bite – a blended pastry flour made by ADM from wheat and maize – has been specially developed for sweet and savoury short pastry applications. Particularly suitable for pie casings, it provides a good flavour profile and creates an attractive golden colour. Special cake flours comprises a number of products that improve aeration, crumb colour, texture, consistency and water holding capabilities. The company's stoneground wholemeal flour, milled on genuine French Burr stones, delivers optimum flavour and texture, and works well in wholemeal breads and rolls. +++



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