

Sweet enough

Food Technology International speaks to Alex Landuyt, research and development manager at Barry Callebaut, about the 'without added sugar' range of products.

Barry Callebaut is synonymous with the production of fine chocolate, including a 'without added sugar' range. 'We introduced our range of sugar-free chocolate in the early 1990s and have seen explosive growth in the last 3–4 years,' says Alex Landuyt, Barry Callebaut's research and development manager, based in Belgium – home to one of the company's two factories producing a 'without added sugar' range, the other being in Canada.

'The recent growth is due to several factors, particularly the growing problem of obesity and diabetes, and the low-carb wave – which we are now addressing by providing a product that produces fine-quality, reduced-calorie, no-sugar-added chocolate.'

The company has been producing cocoa and chocolate products for more than 150 years. In 1996, the Belgian chocolate producer Callebaut and the French manufacturer Cacao Barry joined forces to create a new company called Barry Callebaut AG. Both Cacao Barry and Callebaut had excellent reputations as reliable suppliers of high-quality products, and as dependable business partners for thousands of craftsmen and manufacturers in the food industry.

Sugar substitutes

Barry Callebaut AG is now one of the world's leading manufacturers of high-quality cocoa and chocolate products. It has a global network of about 30 state-of-the-art production sites and some 9500 employees in 17 countries across Europe, North and Latin America, Asia and, not least, West Africa, where cocoa is mainly cultivated.

The company's 'without added sugar' product range is produced in the same way as chocolate and tastes very much like traditional products, although the sugar has been replaced by substitutes such as maltitol.

'If you asked consumers to taste our "without added sugar" chocolate, they wouldn't easily be able to tell the difference from fine chocolate made from sugar,' says Landuyt. 'The biggest difference, from a mouth-feel point of view, is that it tastes pleasantly fresher. This product can also

be handled as real chocolate. You don't need to do anything special to melt it down, temper or cool it. It is a very stable product that has a wide range of potential uses.'

Maltitol, one of the main sugar replacers used by Barry Callebaut, is a polyol, or sugar alcohol. It has a sweet, pleasant taste, which is remarkably similar to sucrose. Maltitol is about 90 per cent as sweet as sugar, non-cariogenic and significantly low in calories. It is especially useful in the production of sweets, including sugarless hard candies, chewing gum, chocolates, baked goods and ice cream.

Unlike sugars, maltitol does not brown or caramelize. It is made by the hydrogenation of maltose, obtained from starch. 'Maltitol's high sweetness allows it to be used without the addition of other intensive sweeteners,' explains Landuyt. 'It has a negligible cooling effect in the mouth, compared with most other polyols.'

Insulin levels

Maltitol is attractive from a consumer point of view, as it does not lead to tooth decay and is non-cariogenic. It can be used as a bulk sweetener, with a clean, sweet taste that is similar to sucrose in intensity. It is also useful in formulating a variety of reduced-calorie and 'without added sugar' foods – especially in the manufacture of sucrose-free chocolate. It may be useful for people with diabetes, because it does not raise blood glucose or insulin levels. Unlike sugar, which contributes four calories per gram, the caloric contribution of Maltitol is only 2.1 calories per gram.

'Sugar-free products are a very small part of Barry Callebaut's portfolio,' says Landuyt, 'but the "without added sugar" range is expected to continue increasing over the next year or so.' The advantages of Maltitol-enhanced chocolate, apart from the taste, are that they are suitable for diabetics, have a lower energy content and can be labelled 'no added sugar'. Barry Callebaut's product assortment ranges from chocolate and bake-stable chocolate drops to hazelnut paste and fillings. The company also designs products in collaboration with its clients, ensuring that the needs of the manufacturer are catered for completely. ●