



Breaking News on Food & Beverage Development - North America

Symrise develops toolbox to tackle stevia flavour issues

By Jess Halliday, 02-Apr-2009

Symrise has launched a new toolkit of flavour masking solutions to help food manufacturers to overcome the off-notes and aftertaste associated with stevia-derived sweeteners.

Stevia sweeteners have been attracting considerable attention in the food world as manufacturers are casting about for natural alternatives to sugar. In the US, stevia sweeteners with a purity of 95 per cent purity steviol glycosides or over obtained GRAS (generally recognised as safe) status in December 2008.

However there are still some issues with the flavour of stevia, which can be marred with off-notes and sometimes does not yield the sweetness expected. Gerhard Krammer, SVP global flavour innovation at Symrise, told FoodNavigator.com: *"With stevia we have a very complex flavour picture. The attributes are bitter notes, metallic notes, astringency notes."*

He added that the high purity sweeteners can have a more prominent lingering aftertaste, rather like liquorish. While this may work in concert with some fruity flavours in beverages, for example, with others the flavour requires some modulation to be acceptable to consumers' palates.

To help combat the problem, Symrise has developed a toolbox of solutions that manufacturers can use to modulate the aftertaste, and bring whole sweetness profile closer to what is accepted by the market. For instance, in Europe consumers are used to a sweetness profile akin to sucralose, whereas in the US they are more used to high fructose corn syrup.

It has done this using its LC Taste system, which combines HPLC-based separation technology to identify molecules from natural sources that are flavour activators, and sensory evaluation by a tasting panel.

Since the over-all flavour depends heavily on the food matrix, there is no one-size-fits all solution to the flavour and sweetness issues; rather, customers use elements of the toolbox that are required according to the application and the stevia material they are using.

Monitoring sources

Krammer said: *"We monitor all available commercial qualities around the globe, as different raw materials have different profiles. We look at all the different purity levels to try to understand the role of individual by-products, and try to consolidate the sensory composition."*

This means that different elements of the toolbox are used depending on the stevia used.

"If a customer is willing to share a complete base of a food product, including the quality of the stevia, we can find complementary elements from the toolbox to optimise the sweetness and the whole flavour profile."

When customers prefer to do their own development, however, they may only need one element, such as bitter masking or a sub element of flavour optimisation.

Crucially, the flavours are naturally-derived, so do not conflict with the natural labelling that use of stevia enables for the product.

Although the toolbox is already quite comprehensive and can deal with a number of applications, including beverage and dairy, development work is on-going to find solutions for an even broader range of applications where stevia could be of interest.

"Because different applications – dairy, soups and sauces, confectionery, beverages, chewing gum – all need a different set of tools."

Global flavour efforts

Other flavour firms are also undertaking work towards masking or modulating flavour issues associated with stevia sweeteners, in a bid to smooth its acceptance in the marketplace.

For instance in January supplier PureCircle announced that it has teamed up with Firmenich to develop a formula for applications using its stevia-derived sweetener, not just the ingredient.

In the US, Sunwin International Neutraceuticals – which currently produces a stevia-derived tabletop sweetener as well as stevia extracts for the neutraceutical industry – teamed up with Wild Flavors to produce proprietary sweetening blends for food and beverages.

And Comax Flavors has released a natural masking flavor to mask the bitter aftertaste associated with stevia-derived sweetener Reb A.

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