

Healthy, beautiful, powerful

THE IMAGE OF INGREDIENTS IS ABOUT TO CHANGE. ONCE THEY WERE MERELY COMPONENTS IN A RECIPE, THEN THEY TURNED INTO POSSIBLE MONEY SAVERS AND NOW THEIR MARKETING POTENTIAL IS THEIR VALUE



Fotolia.com © retdzoo

+ “Functional ingredients” is the buzz word used by raw material suppliers as a top sales argument. All manufacturers have now understood that the change to ever cheaper ingredients does not always result in the desired success, in particular because the expenditure share for raw materials amongst the overall costs is not increasing. However, the added value or claimed benefits some ingredients contribute to a product are almost unlimited.

Added to that, they suit the demands of today’s consumers who are trying to halt their own ageing process for as long as possible due to insecure retirement situations and increasing health costs.

Promotions of health and higher performance have become important marketing arguments that are closely related to another buzz word, “weight management”. The population is constantly being accused of gaining weight. There is no TV station, tabloid or women’s magazine without frequent information on how to get or stay slim.

New is the recent consumer request for naturalness and the interest in environmental and social responsibility which are mentioned together with intelligent packaging solutions and/or the overall behavior of a company. If these terms are related to the products, they are, in general, aimed at the origin and cultivation of raw materials.

When browsing the supermarkets on the lookout for new products, it can be noted that the reasoning behind “health and wellness” has changed with the introduction of its own respective market segment. Earlier, iodine was added to salt to counteract the lack of iodine in the diet. Today, the rea-

sons all start with “good for...”. The assessment is done using positive associations which range from a strong immune system, powerful heart, healthy bones and sharp brain to beautiful skin, sound sleep and better mental health. Remarkable is the development that the health promises are increasingly becoming more precise. At Vitafoods, a specialty exhibition for nutraceuticals, which recently took place in Geneva, Switzerland, Dutch ingredients specialist DSM introduced a new product range called “Vida”. TensVida, a lactotripeptid, for example, promises to keep the blood pressure at a moderate level. In bakery products, tensVida can be used in (cream) fillings, toppings and coatings. The taste of tensVida is bland and clean and the recommended dosage is 0.35 g per serving. tensVida is stable after pasteurization and UHT treatment and therefore suitable for use for bakery fillings and pastry products.

However, the heat impact of a baking process leads to losses of the lactotripeptide and therefore the addition of tensVida to baking products is not recommended.

The second product from the new DSM range – insuVida – shall assist in the control of the blood glucose level. However, its dosage needs to be very high to take effect, so its application in baked goods seems unlikely.

Another product of DSM might be more successful in the baking industry because of the recent discussion on the salt content in bread. Maxarite is a yeast extract, a kind of flavor enhancer, which provides for a salt reduction in the final

Table of results: 30-50% sodium chloride reduction in Dutch tin bread

Salt variations		1	2	3	4	5	6	7
Salt (NaCl)	%	2.0	1.4	1.4	1.4	1.0	1.0	1.0
KCl	%	-	-	0,3	-	-	0,5	-
Maxarite™ BSalt	%	-	-	-	0,45	-	-	0,75
Dough after mixing/ at moulding*								
consistency		0/0	-1/-2	0/-1	0/0	-2/-2	-1/-2	0/-1
extensibility		0/0	2/1	1/0	0/0	2/2	2/1	1/0
stickiness		0/0	1/1	1/1	0/0	2/2	2/1	1/0
Taste panel results								
Saltiness**		10	5	7	10	3	5	8
Off-notes***		0	0	8	0	0	10	0

*Dough characteristics are scored on scale -3 to +3. - means less than reference, + means more than reference
 * Ranking no salt (0) – very salt (10)
 **Ranking no off-notes (0) – high off-notes (10)

Taste profile

Sensory outcomes



Source: DSM

product by up to 30%. It can be labeled in the EU as yeast extract, natural flavor or aroma and in the US and Japan as yeast extract.

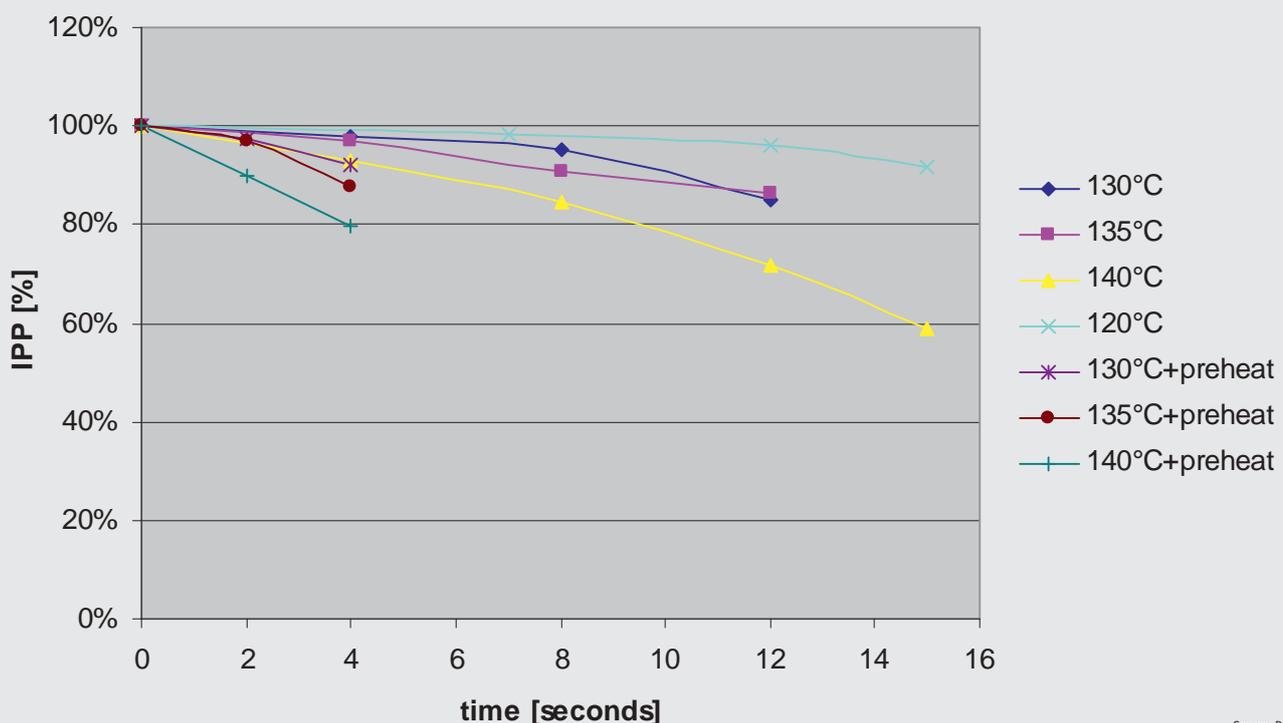
Together with potassium chloride and ammonium chloride, it is also offered as a salt reduction solution BSalt for the baking industry.

Jungbunzlauer, the Swiss based producer of natural and nature identical biodegradable ingredients, is taking a different approach with its salt replacer sub-4salt. It consists of a

mixture of potassium chloride, sodium chloride and sodium gluconate. (Sodium gluconate is the sodium salt of gluconic acid, produced by the fermentation of glucose. The white to tan colored, granular to fine, crystalline powder is highly soluble in water.)

According to Jungbunzlauer, this mixture eliminates the bitter, metal taste of potassium chloride as well as color changes otherwise induced by yeast extracts. The portion of sodium chloride would ensure the well known taste. Sub-4salt has ►

tensVida at high temperatures



Source: DSM

the same water binding capacity as sodium chloride, so the use as a replacer for common salt does not affect the shelf life.

About one quarter of all product innovations in the food and beverage range in 2008 carried the label “natural”. This new buzz word fulfils the need for “good for me” products as well as the request for ethical and socially responsible behavior without having to observe the narrow legal restrictions of the Organics Regulation. At Vitafood, “natural” was a product claim seen at almost every stand, with many of the exhibitors focusing on offering plant extracts.

Jungbunzlauer serves this category with its “natural leavening agent” for non-yeast leavened dough for cakes, muffins and scones, namely glucono delta lactone (GDL).

GDL is a neutral cyclic ester of gluconic acid, produced with the acid by fermentation of glucose. It is separated from the acid by crystallization. GDL is a fine, white crystalline powder, freely soluble in water. It is practically odourless and has a slightly sweet taste. Non toxic, it is completely metabolized in the body like a carbohydrate. When added to an aqueous solution, GDL rapidly dissolves, and subsequently slowly hydrolyses to gluconic acid, thus producing a gentle acidification in the same way as lactic acid producing bacteria. In solution, both gluconic acid and GDL are always in balance. The equivalent point and the rate of transformation are related to concentration, temperature and pH-value. Acidifica-

tion and thus the rate of carbon dioxide release can be slowed down or speeded up via temperature control. In Europe, GDL is a generally permitted food additive. In the US, GDL also belongs to the non synthetic non agricultural substances allowed as ingredients in or on processed products labelled as organic or “made with specified organic ingredients”. GDL has a mild taste, creates a light crumb color and a homogeneous cell structure. When replacing sodium acid pyrophosphate with GDL, a sodium reduction of 25-35 % can be achieved in muffins and cakes, according to Jungbunzlauer.

Another important ingredient at vitafoods are sweeteners and sugar replacers in all variations. Besides some innovations based on Rebaudioside A, a non-calorific sweetener gained from the stevia plant, whose approval for use within the EU is expected by the end of this year, many other products focused on sucralose. Obviously, British supplier Tate & Lyle is about to lose its monopoly position. There are now a number of other suppliers that produce sucralose, amongst them LP Food Ingredients. The company succeeded in a patent dispute with the British company. The sweetening power of sucralose is 600 times that of sugar. It has no calories and is often used in mixtures with other sweeteners such as maltodextrin or polydextrose. Sucralose was first approved in 1999 by the US-American Food and Drug Agency (FDA) and has been used, amongst others, in baked goods since then. +++

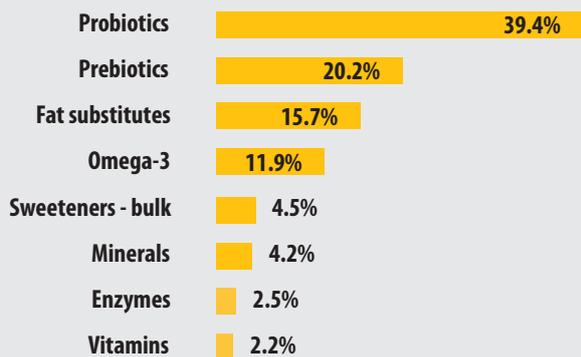
Ingredients in Bakery & Confectionery

British market research company rts resource recently published a study on ingredients for the baking industry. The market growth of selected ingredients in the time span from 2003 to 2008 was examined. Furthermore, a market estimate was presented about the possible future growth of individual groups of ingredients up until 2013. Reference value was the EU(15) market. According to rts resource, the market growth is predicted to reach an average of 0.4% annually in volume and 1.4% in value. A clear

increase in ingredients, which are directly or indirectly connected to the health and wellness market such as probiotics, prebiotics, fat substitutes or omega-3, is expected. The 16 ingredients included in this analysis are: colors (excluding caramel), emulsifiers, hydrocolloids, seasonings/herbs/spices, omega-3, acidulants, fat substitutes, (measured as fat replacers), antioxidants, preservatives, prebiotics, probiotics, bulk sweeteners and intense sweeteners. +++

Growth by ingredient

EU15: Growth in volume usage of ingredients in bakery & confectionery by key ingredient, 2003 to 2008
CAGR %



Source: RTS Resource

Forecast value by ingredient

EU15: Market value of ingredients in bakery & confectionery by key ingredient, 2013
€m



Note: Industrial seasonings, herbs & spices. Colours excludes caramel.
Source: RTS Resource

Passion for Pastry



Knowledge, Creativity, Innovation



Unifine Food & Bake Ingredients GmbH
Riedstraße 6
D - 64295 Darmstadt
Telefon +49 6151 3522 90
Telefax +49 6151 3522 9339
Email mailbox@unifine.de
Website www.unifine.de

