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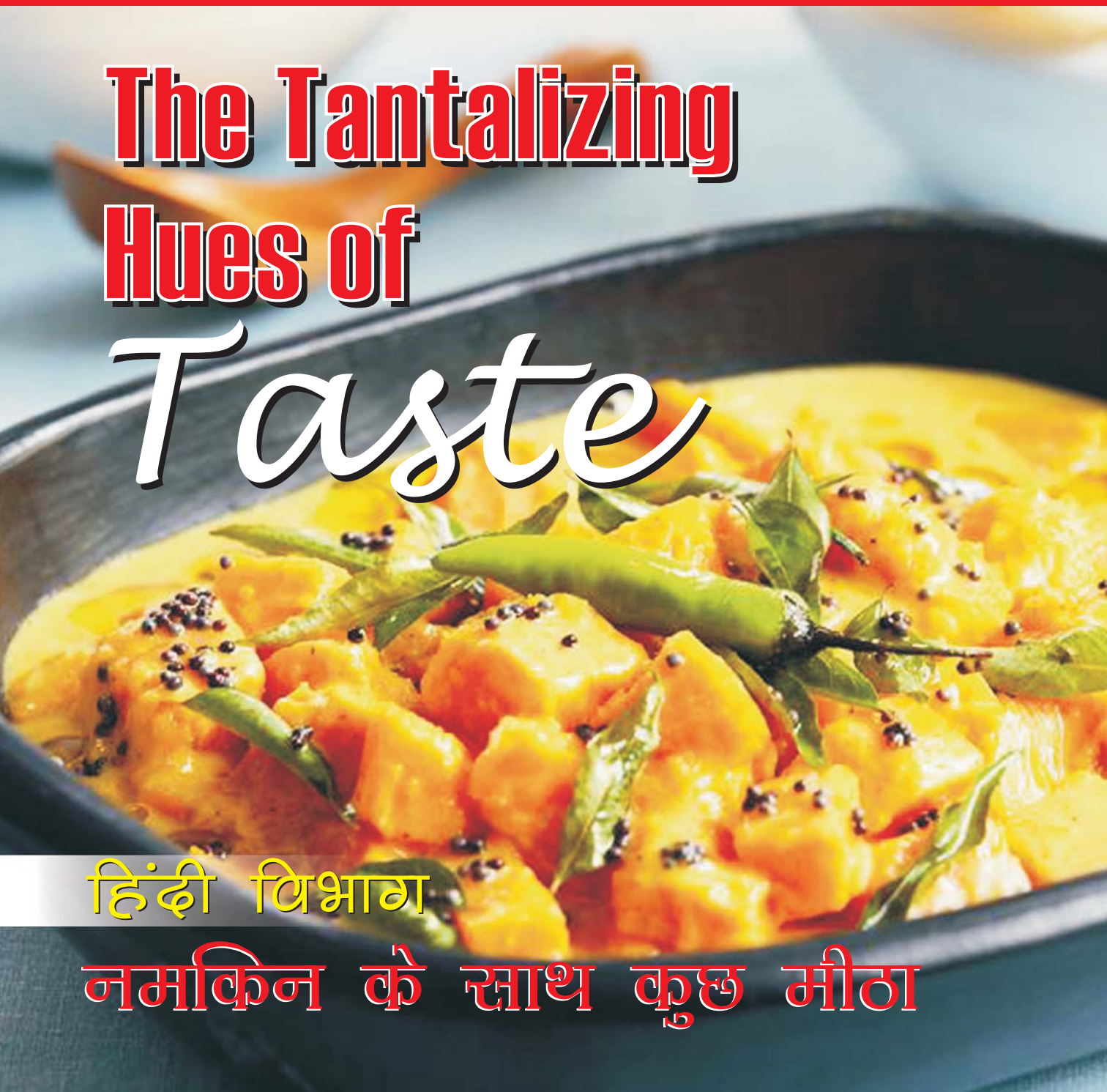

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Dear Reader,

Greetings and welcome to a fresh issue of Ingredients Business! This is our fifth issue and it has been a quantum leap in terms of growth for us. We thank all our readers and advisers for their massive support and appreciation. Their overwhelming feedback has given us the extra impetus to work harder to bridge the gap between bakery practitioners and Ingredients manufacturers. In this issue, our special focus is on 'taste'. We have an in-depth study of salty and sweet taste, in addition to these we look at the fifth mystery taste of Umami - after bitter, salty, sour and sweet. We have a round-up of TASTE 2011, an exhibition held in Mumbai with 14 countries participating with national pavilions of Canada, Italy and France. Our special correspondents picked out the top 10 stalls at the event ranging from Cretan black bread to South Korean black garlic, Indonesian Aloe Vera jelly, Canadian Maple syrup, cholesterol lowering Canola oil.

The Newsdesk ferrets out a five-course-meal flavoured bubblegum being manufactured in the US – starting from tomato soup, roast beef, baked potato, blueberry pie and finally the gum ends in an ice cream flavour! Also an alarming report about dwindling production of coconut in India and Sri Lanka owing to bad weather and the farmers taking up growing alternate crops like rubber owing to persistent low prices for years.

Our Hindi readers continue to enjoy the language section which talks about black garlic and its benefits and maple syrup making inroads into the Indian market. I am sure that you would enjoy reading this issue.

Happy reading an eventful and information packed issue!

Manjeet Bhawsar

manjeet@newmediacomm.com

Worth Your Salt

More than the taste, salt affects baked goods right from the moment it is added to the dough. Read on to find how salt benefits the baking process.

Salt comes in several forms, including fine, course, sea salt and Kosher salt. All provide the same effect. In fact, in blind taste tests, people were not able to distinguish a difference in the bread's taste based on the type of salt used.

Salt is a seasoning that enhances and balances other flavors....even sweet ones in baking!

Salt's main function is to bring out the flavour of the baked product. Salt tends to bring out the good flavours and mask the off-flavours. Usage levels are normally between 1,8 % and 2,2 %. Legislation may vary from country to country because the intake of too much salt is considered as a health risk. In Belgium for instance the maximum allowed is 1,8 %, while in France 2,0 % is allowed. In Scandinavia one has to pay extra taxes if the salt level in the bread is higher then 1,2 %. Bread made with less then 1,6 % salt will taste insipid and bread made with more then 2,2 % will taste too salty.

In addition to impacting flavour, salt also inhibits fermentation due to the osmotic pressure effect. Yeast cells will partially dehydrate due to the osmotic pressure.

In addition to impacting flavour, salt also inhibits fermentation due to the osmotic pressure effect. Yeast cells will partially dehydrate due to the osmotic pressure. This can be illustrated easily by putting some salt on fresh yeast. After a while the yeast will liquefy due to the fact that the salt will attract the water from the yeast cell. As the cell membrane is semi permeable, water will migrate from the cell and the mixture will seem to liquefy. In reality the yeast cell undergoes a change which can be compared with the change that happens to a grape when it becomes a raisin, it just dries out.

The fact that salt influences the fermentation can be used to control the fermentation: salt can be added for instance to sponges to slow down the fermentation rate. Slowing down fermentation rate means that less sugars are metabolised into acids. The result is that the pH of the dough will be higher and the crust colour will be darker. To remember that high pH gives a darker colour, one can think about a chocolate cake. Chocolate is alkaline and to get a darker, deeper colour of a chocolate cake, one must increase the pH.

Salt toughens the gluten. Weaker flours could actually be strengthened by adding salt. Salt lengthens the mixing time so it is common to delay the addition of the salt to the mixer. Faster flour hydration is also seen with delayed salt. The reason why salt toughens the gluten must be sought in the fact that gluten is made of negatively charged proteins. Negatively charged molecules will repel and not attract each other. It is believed that the positive sodium-ions Na+ of the salt play a role in bringing the protein molecules closer to each other.

Lastly, bread with no salt will also has a crust which is lighter in colour (given the same baking time and oven temperature). This can be explained as follows. Salt will slow down fermentation, so when there is no salt, the yeast activity will increase i.e. the yeast will metabolise more sugar in a given period of time. As a result there will be less sugars left in the dough and the pH of the dough will be lower (more acids will be formed). Sugars play (together with proteins, moisture and heat) an important role in the Maillard reaction. But the Maillard reaction is also influenced by the pH: a higher pH will speed up the Maillard reaction. So in this case where the pH is lower and where there are less sugars left, the colour of the crust is lighter.■

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Polyols

Erthritol, Lactitol, Mannitol, Xylitol.

Food Additives

Calcium Caseinate, Sodium Caseinate.

Sweeteners

Intense: Acesulfame - K, Sucralose.

Natural : Fructose, stevia

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The Sovereignty of Sugar

If you have a sweet tooth, here are all the facts and myths about your favoured food the natural types of sugars. Is sugar prohibitively calorific, how much of it is right for you and your child? Well all those queries are answered here:

Societies everywhere share a craving for sweets. Sugar is a big part of almost all foods that we consume, but many people either cannot have sugar due to health concerns, or they do not want a lot of sugar in their diets. There are four classes of simple sugars which are regarded by most nutritionists as "harmful" to optimal health when prolonged consumption in amounts above 15% of the carbohydrate calories are ingested: Sucrose, fructose, honey, and malts.

White Sugar

There are many different types of granulated sugar. Actually some of these kinds of sugars are not even available in our local markets and are only used by large food industries and professional bakers etc.

Carbohydrates, including sugars, are your body's main source of energy. There are two forms of sugar in the food we eat. There are naturally occurring sugars in fruits and dairy products and there are added sugars (white, brown or powdered sugar as well as corn syrup solids) in many processed foods "Regular" or white sugar, extra fine or fine sugar "Regular" or white sugar, as it is known to consumers, is the sugar found in a lot of home's sugar bowls, and most commonly used in home food preparation.

Fruit Sugar

Fruit sugar is slightly finer than "regular" sugar and is used in dry mixes such as gelatin and pudding desserts, and powdered drinks. Fruit sugar has a more uniform small crystal size than "regular" sugar. The uniformity of crystal size prevents separation or settling of larger crystals to the bottom of the box, an important quality in dry mixes.

Turbinado sugar

This sugar is raw sugar which has been partially processed, where only the surface molasses has been washed off. It has a blond color and mild brown sugar flavor, and is often used in tea and other beverages.

Brown sugar (light and dark)

Brown sugar retains some of the surface molasses syrup, which imparts a characteristic pleasurable flavor. Dark brown sugar has a deeper color and stronger molasses flavor than light brown sugar. Lighter types are generally used in baking and making butterscotch, condiments and glazes. The rich, full flavor of dark brown sugar makes it good for gingerbread, mincemeat, baked beans, and other full flavored foods. Brown sugar tends to clump because it contains more moisture than white sugar.

Problems such asosteoporosis and vitamin and mineraldeficiencies can also occur when high-sugar foods replace more nutritionally balanced foods.

Sorbitol and Mannitol

Sorbitol and mannitol are sugars derived from alcohol. They are readily converted to fructose and glucose. The problem with these sweeteners is that they are slowly absorbed from the intestines and may produce a laxative or gaseous effect. They are low in calories

Saccharin

Saccharin was thought to be one cause of bladder cancer in men. Because of a law called the Delaney Clause, any substance that is known to cause cancer in man or animals must be banned. At the time the FDA was considering banning saccharin, there wasn't any other artificial sweetener on the market. Since that time, any food with saccharin in it, has carried a warning label that the use of saccharin may be hazardous to your health. The Center for Disease Control in Atlanta studied person's with bladder cancer. They did not find any higher incidence of bladder cancer among saccharin users as compared to non-saccharin users.

The numbers of foods in today's market with saccharin are fewer because of the increased use of aspartame. They say that Aspartame does not leave a bitter aftertaste as saccharin does.

Sucralose

Sucralose is the common name for a high-intensity sweetener made from sugar.. Sucralose is 600 times sweeter than sugar. Sucralose has a sugar-like taste, good water solubility and excellent stability in a wide range of processed foods and beverages. When combined with some other intense sweeteners, it has a synergistic sweetening effect. Like sugar, sucralose will hydrolyse in solution, but unlike sugar it hydrolyses only over an extended period of time under extreme conditions of acidity and temperature. Sucralose does not promote tooth decay.

What role does sugar play in our diet?

How many people do know who say that they have a "sweet tooth"? Ever hear someone say that they are "addicted" to sugar? Sugar and its role in our diet has, indeed, become a controversial topic. Many have blamed the rise in overweight and obesity in our country on sugar. Our intake of sugar has increased, but so has our intake of artificial sweeteners. Are either or both to blame?

There are few people who can resist the taste of sweet foods. We are born with a preference for sweets, and it remains with us throughout our lives. However, too much of a good thing can lead to problems such as dental cavities, tooth decay, obesity, and the health complications related to being overweight and obese (for example, type 2 diabetes, hypertension, hypertriglyceridemia, and heart disease). Problems such asosteoporosis and vitamin and mineraldeficiencies can also occur when high-sugar foods replace more nutritionally

balanced foods.

The dietary guidelines state that we are to choose beverages and foods to moderate our intake of sugars. In the United States, the number-one source of added sugars is non-diet soft drinks (soda or pop). Other major sources are sweets and candies, cakes and cookies, and fruit drinks and fruitades. Limiting your intake of these foods and avoiding foods with high amounts of added sugars is the best way to control your intake. When reading the ingredients on a food label, you must read carefully. Ingredients are listed in order of the amount used in the product. When a product contains a large amount of sugar, it can be hidden in the ingredients by using lots of different kinds of sugar. For example, if the product has 1 cup of sugar and that was the highest ingredient, sugar would be listed as the first ingredient. This can be avoided by using smaller amounts of different sources of sugar and listing them lower in the ingredient list. Here are the most common sources of sugar found on food labels:

Children do not need diet beverages (sugar free) or other diet foods, unless the child is a diabetic.

- Brown sugar
- Corn sweetener
- Corn syrup
- Dextrose
- Fructose
- Fruit-juice concentrate
- Glucose
- High-fructose corn syrup (HFCS)
- Honey
- Invert sugar
- Lactose
- Maltose
- Malt syrup
- Molasses
- Raw sugar
- Sucrose
- Syrup

How does sugar effect your body? Sugar adds calories which if you eat more than you need, you will gain weight. Weight gain increases your risk of getting heart disease, diabetes, high blood pressure or even some types of cancer. However, if you are underweight, sugar can add extra calories so that you can gain weight . If your body doesn't make enough insulin like a diabetic, then the sugar you eat increases the sugar in your blood to unhealthy levels.

The body breaks down sugar into the sugar you find in your blood (glucose). Unfortunately, there are no vitamins or minerals in sugar and so it is called an "empty" calorie. That is why it is the first food to be eliminated from a weight loss diet. By the way, it doesn't matter if the sugar is white or brown. The amount of molasses in brown sugar is so low it doesn't contribute enough of any vitamin or mineral to count on a food label.

Sugar and Your Child

Children do not need diet beverages (sugar free) or other diet foods, unless the child is a diabetic. At the present, they say that there is no concern with NutraSweet usage by children. The concern is about children who involuntarily share their parent's low calorie diet and parent's preoccupation with weight control Children at least through age 10 need sufficient calories and protein for normal growth and development. This can be grossly measured by height and weight. There are published tables for comparison. If a child's height is in the 100th percentile, a weight in the 100th percentile (range of 75% to 125% is appropriate) is OK. If a child's height or weight is less than the 25th percentile, he / she should be seen by a doctor to determine why. Smallness may be genetic, but it can also be induced by an insufficient diet.

Other vitamins and minerals are important and food is the best source of these nutrients. When calories are restricted, so are these vitamins and minerals necessary for growth and development.■

Calorie Wise Sweeteners

The on-going debate about the useful and harmful effects of natural and artificial sweeteners gathers momentum with the fitness brigade taking charge of calorie intake and side effects of either.

There are two types of sweeteners:

• Natural or Caloric (nutritive)
• Artificial or Non caloric (non-nutritive)

The caloric sweeteners provide four calories per gram. The noncaloric varieties provide zero calories

Artificial sweeteners are food additives intended to replace the sweetness of sugar without the calorie intake. There are also natural sweeteners that can replace sugar, so which should you choose? Natural sweeteners such as sugar, honey and grape juice are well known, although there are also the less well known, but much more effective, sucanat and stevia.

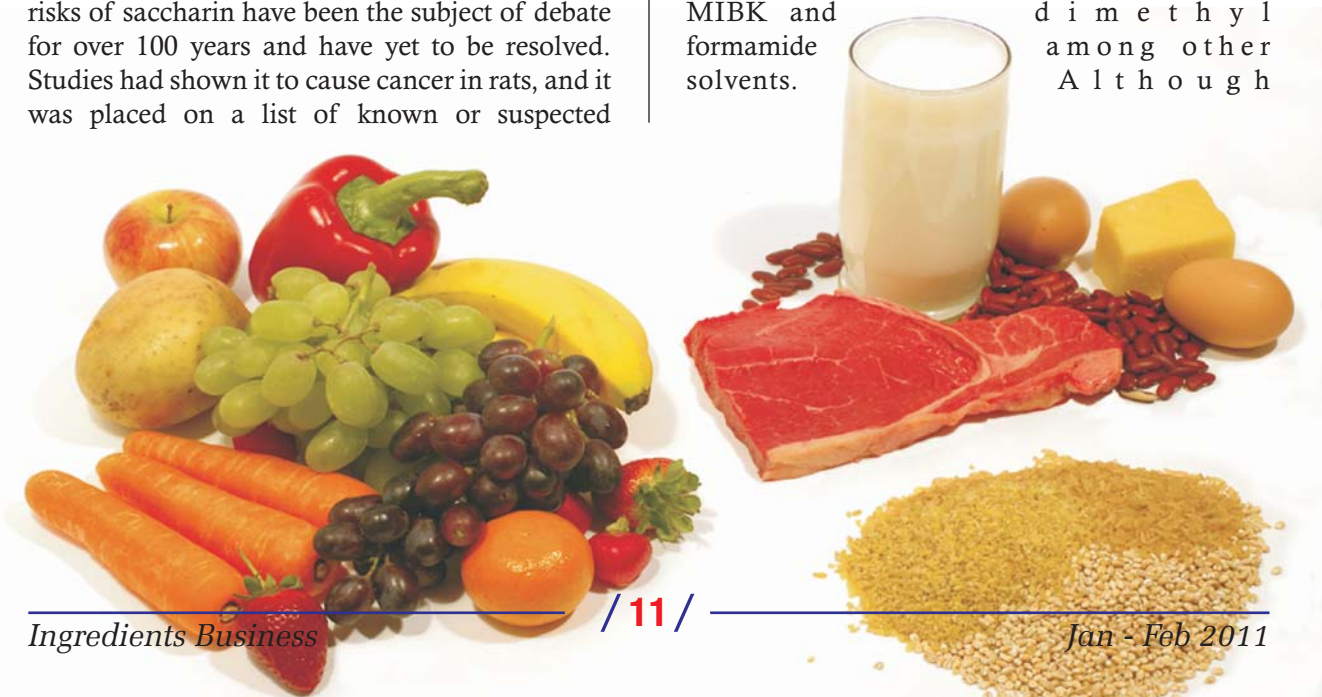
Sucanat is dried unrefined cane sugar, and unlike refined sugar retains the molasses. Stevia, on the other hand, is a shrub, native to Paraguay, the leaf of which contains a non-sucrose sweetener, 300 times the sweetness of sugar, and which is not absorbed by the body. It is a sweetener pure and simple, with no proven health issues. It is also Japan's most popular sugar substitute.

Artificial sweeteners have been known for many years, the first and best known being benzoic sulfanide, known to you as saccharin. The health risks of saccharin have been the subject of debate for over 100 years and have yet to be resolved. Studies had shown it to cause cancer in rats, and it was placed on a list of known or suspected carcinogens.

It has been banned for use in the USA, but that was lifted by the FDA in 1991, and in 2000 saccharin has no longer required a health warning label. The issue appears to have been resolved by rats metabolizing saccharin in a way not possible in humans. However, many are still suspicious of it, and if you don't trust a food additive then do not voluntarily consume it.

The top two artificial sweeteners in the USA are sucralose and aspartame. Sucralose, discovered in the UK in 1976, is the less emotive of the two, and is chemically the chlorocarbon trichlorogalactosucrose, produced by chlorination of sucrose and 600 times as sweet. It should be stressed that a chlorocarbon is totally different to a chlorinated hydrocarbon. It is generally considered safe to use, although it is very slow rate of degradation in waste water has raised concerns that concentrations could increase with increasing popularity of the sweetener.

According to' Sweet Deception', the book states sucralose to be discovered during the search for an insecticide, and is produced when sugar is treated with acetic anhydride, hydrogen chloride and trityl chloride among others in the presence of toluene, MIBK and dimethyl formamide among other solvents. Although



marketed as coming from a natural source, it is anything but natural.

Aspartame was developed by G.D. Searle, and its approval by the FDA has been a matter of concern for many years. Promoted by Donald Rumsfeld, then CEO of Searle, he "called in his markers" to have the substance approved, which was not one of the more glorious moments in America's history.

It is used in over 6,000 products, most household names, yet was based on "inconclusive and incompetent science" according to detractors. In 1981, on the day of his inauguration, Ronald Regan suspended the powers of the FDA on aspartame, and then a month later appointed a new FDA head, Arthur Hayes, who immediately licensed the substance. Donald Rumsfeld was on President Regan's team.

There is a strong body of evidence that aspartame is toxic to humans, although the official evidence has discredit such studies. Recent evidence that linked aspartame to cancer has been stated as irrelevant to humans. In spite of the concerns, the substance has been approved, not only in the USA but also by the European Union. This might call into question the relevance of studies to humans, but many still believe that commercial considerations are behind these decisions.

Recent evidence that linked aspartame to cancer has been stated as irrelevant to humans.

In fact, an extensive study carried out by the Italian European Ramazzini Foundation, showed that aspartame can cause a significant increase in cancers and leukemias in rats at well below the doses allowed by the EU or the US. This substance required further study by bodies with no vested interest in the outcome.

Those that believe so point to the stevia situation. This natural sweetener is banned for use as a food additive in the EU, and cannot be sold as sweetener due to the FDA not recognizing it as such. It has also been banned in Hong Kong, even though it is the sweetener of choice in Japan, with no apparent side-effects becoming endemic in that country. The USA might not approve stevia as a sweetener, but it is considering lifting its ban on cyclamate.

Cyclamate was banned by the FDA due to tests on rats indicating a possibly carcinogenic effect, but no more positive than those on aspartame. Cyclamate is permitted in Canada, where saccharin is not, and also in the UK, but not throughout the EU.

It is obvious, then, looking at the various claims and counter-claims, and the conflicting legislation between civilized countries, that the artificial sweetener industry is wrought with uncertainty. In the past, it is almost certain that commercial considerations have come before the health of the nation, and that does not engender confidence.

In fact, the only sane approach to take at this time would be to avoid artificial sweeteners altogether, and stay natural. That is not to claim that natural products are safe to eat - far from it! Many of the most virulent poisons are natural, but the well-used natural sweeteners appear to be safer at this time than any of those artificially manufactured.

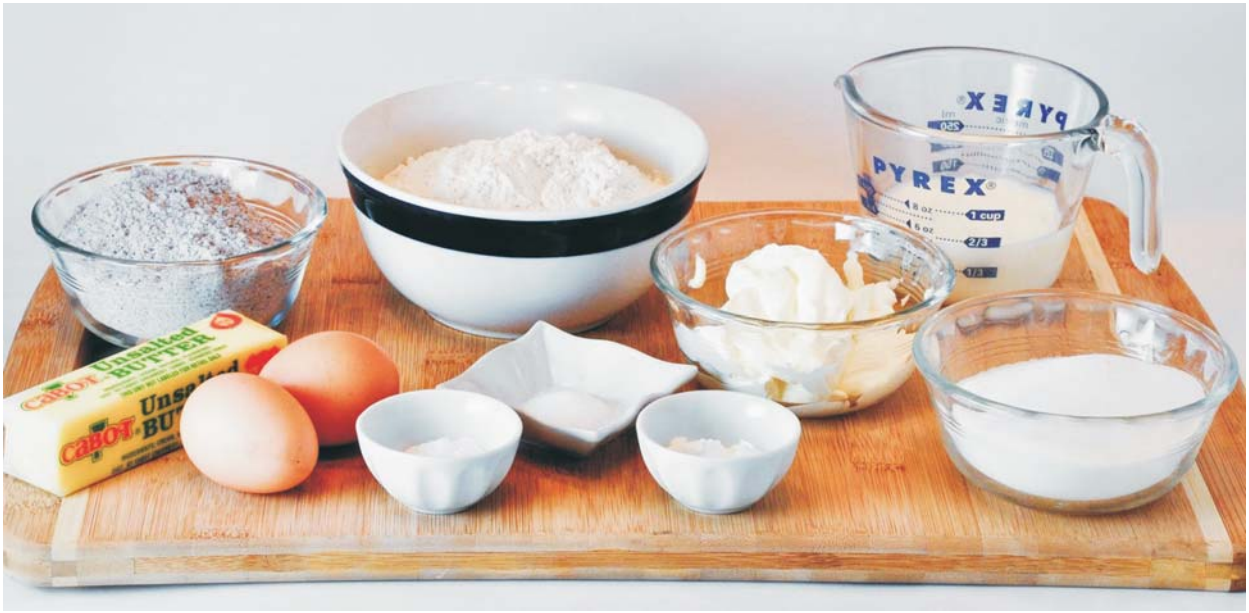
There might be objections to this where diabetes is concerned, and Canada, while banning saccharin for normal use, still allows it for use by diabetics. This is the one of the two major bodies that promotes the use of artificial sweeteners: the diabetic lobby and the weight loss lobby.

It is difficult to question the obesity and weight problem that America has while at the same time arguing against the use of artificial sweeteners. However, don't forget that stevia is widely used in Japan with no reported health problems, and stevia is a natural sweetener that is permitted for use as a food additive, and that is not absorbed by the body.

However, there is also a recent 2005 study that has indicated that diet drinks containing artificial sweeteners might fool your body into believing that the sweet taste is promising energy, and when it doesn't materialize, you feel hungry and eat more. This has been supported by animal studies.

These have shown convincingly that the sensation of sweetness induces the production of insulin with resulting hypoglycemia because there is no actual increase in blood sugar. This induces increased food intake. This has been proved with rats, and also proved was the fact that the natural response of eating less at the next meal, after sugary food, was gradually diminished in animals fed non-calorific sweeteners. ■

Baking with Sugar and Sugar Substitutes



Apart from adding sweetness to baked goodies, sugar provides moisture and tenderness, liquefies when it bakes, increases the shelf-life of finished products, and caramelizes at high temperatures.

Sugar performs many important roles in baking. It provides moisture and tenderness, liquefies when it bakes, increases the shelf-life of finished products, caramelizes at high temperatures, and, of course, adds sweetness. Refined sugar, whether from sugar beets or sugar cane, helps cookies spread during baking, allowing their crisp texture. Because of these critical functions, bakers can't simply replace sugar with a different sweetener. In many recipes, you can simply decrease the amount of sugar simply by reducing the sugar by one third without affecting the quality of the product.

Other Natural Sweetners

• Refined fructose is sweeter than granulated sugar. It can be easily substituted in baking recipes--simply add one-third less. Some tasters find that, although products made with fructose taste sweet, they also taste a little flat. Fructose attracts more water than sucrose, so fructose-sweetened products tend to be moist. Baked products made with fructose will be darker than if they were made with white sugar. Fructose is available in health-food stores.

• Brown rice malt syrup consists of maltose, glucose and complex carbohydrates. It is an amber-hued syrup resembling honey, but it is not as sweet as honey. It can be substituted cup per cup for granulated sugar, but the liquid ingredients should be reduced by ¼ cup per cup of rice syrup. Enzyme-treated syrup, as opposed to malted syrup, will tend to liquefy the batter of a baked product. Use the malted syrup for best results.

• Fruit juice concentrates, such as apple juice concentrate, orange juice concentrate, or white grape juice concentrate, are wonderful substitutes for sugar and add interesting flavors as well. Juice concentrates are made up of fructose and glucose. Use ¾ cup for every cup of white sugar, and decrease the amount of liquid by 3 tablespoons.

• Stevia is a naturally sweet herb that has been used

for hundreds of years in South America. Since neither the herb nor its powdered form has been approved as a food additive by the FDA, it is available only as a dietary supplement.

All refined sugars--brown sugar, white sugar, "raw" sugars such as demerara or turbinado are equal from a nutritive standpoint. Brown sugars simply contain higher molasses. Refined sugar is 99 percent pure sucrose, a simple carbohydrate.

Other sugars, such as honey, taste sweeter on the tongue than granulated sugar. You can therefore use less honey to sweeten a batch of muffins than you would sugar. Maple syrup tastes less sweet than sugar, but its unique flavor is prized in baked goods and desserts

Natural Sweeteners

Honey consists of several components: fructose, glucose, maltose and sucrose. It is 25 to 50% sweeter than sugar, and has a distinctive flavor. The flavors and colors of honey can vary depending upon the bees' diet--buckwheat honey, for example, is darker and stronger than clover honey. Baked goods made with honey are moist and dense, and tend to brown faster than those made with granulated sugar. Use ¾ cup plus 1 tablespoon honey in place of 1 cup sugar, and reduce the other liquid ingredients by 2 tablespoons. Unless the recipe includes sour cream or buttermilk, add a pinch of baking soda to neutralize the acidity.

Maple syrup is made from the sap of sugar maple trees, and is a combination of sucrose and glucose. The sap is boiled down into a sweet, delectable syrup. Grade A maple syrup is golden brown and has a delicate flavor. Grade B is thicker, darker, and is better for baking because it has a stronger flavor--and it costs less. Although maple syrup is only 60% as sweet as sugar, use ¾ cup for every cup of white sugar and decrease the amount of liquid by 3 tablespoons to compensate for its liquid state.

Molasses is a byproduct of refined sugar production. It is made up of sucrose, glucose and fructose, and also contains small amounts of B vitamins, calcium and iron. Molasses imparts a dark color and strong flavor to baked foods, but is not as sweet as sugar. When substituting molasses for sugar, use 1 1/3 cups molasses for 1 cup sugar, and reduce the amount of liquid in the recipe by 5 tablespoons. Molasses is also more acidic than sugar; add ½ teaspoon baking soda for each cup of molasses used. Replace no more than half the sugar called for in a recipe with molasses.

Corn syrup is known as an "invert sugar;" it is useful in cooking and candy-making because, unlike other sugars, it does not crystallize. Corn is treated with enzymes to break down starch into glucose and maltose. Corn syrup is less sweet than sugar, and does not add flavor like molasses or honey. It is used in place of corn syrup. Some cooks believe sugar syrups have a livelier flavor than corn syrups and add more character to dishes such as pecan pie.

Artificial Sweeteners

These sweeteners have been approved by the FDA and are available for home use. While they provide a sweet taste, artificial sweeteners lack the browning, tenderizing and moisture-retaining properties of granulated sugar. Sucralose is the one sweetener than can be substituted cup-for-cup for granulated sugar in baking.

Saccharine is 200 to 700 times sweeter than sugar. It can be used in baked goods. However, the manufacturer recommends substituting it for only half of the sugar in a recipe. Substitute 6 (1-gram) packets for each ¼ cup sugar.

Aspartame is 160 to 220 times sweeter than granulated sugar. This sweetener is heat-sensitive: it loses its sweetening power when heated, and cannot be used for cookies or cakes. The manufacturer does recommend trying it in no-bake pies and in puddings after they have been removed from the heat. Substitute 6 (1-gram) packets for each ¼ cup of sugar.

Acesulfame potassium is 200 times sweeter than sugar. It is heat-stable, so it can be used in baking and cooking. Use acesulfame K in combination with granulated sugar when baking. Substitute 6 (1-gram) packets for each ¼ cup sugar.

Sucralose is made from sugar, but is not metabolized by the body like sugar. It is 600 times sweeter than granulated sugar. Granular sucralose is the form used when baking. Substitute 1 cup granular sucralose for each cup of sugar called for in the recipe. Recipes made with this product tend to bake faster than usual, so check for doneness sooner than the recipe specifies. ■

Fi FOOD INGREDIENTS INDIA

India's **$45bn** processed food industry is forecasted to double by 2012.

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BOMBAY EXHIBITION CENTRE
MUMBAI, INDIA

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Why Stevia is a Natural Sweetener?

It is an ingredient used in Coke and Pepsi products for their zero calorie and diet beverages. Stevia is the new natural sweetener as there have been no none health risks or hazards associated with it.

Stevia is a green herbed plant that was discovered a long time ago by the natives in Paraguay, but just has been patented and available on the market for the last decade in the United States. However, in the last few years it has been picking up a great notoriety and will soon be an ingredient used in Coke and Pepsi products for their zero calorie and diet beverages. It is the new natural sweetener as there have been no none health risks or hazards associated with it as other synthetic sweeteners have been linked to side effects and cancers. Here are some of the main reasons why stevia is the natural sweetener of the future:

1. It is natural- Stevia is natural and is derived from a herb that is generated by the Stevia Raubaudiana plant that is a native perennial of Paraguay and Brazil. It is and has been researched in the past decade for its abilities to regulate blood sugar, to suppress appetite, and to inhibit fat absorption.

2. It is safe- Stevia has been around for centuries and used for medicinal purposes in many different countries. Now that it is approved in the United States the market is continually flourishing with numerous brands. Although skeptics beg to differ of its safety, it and studies have conduced that there is still no links to cancers or other adverse effects that have been proven yet in studies.

3. Way sweeter than sugar - Stevia extract and natural sweeteners are indeed much sweeter than cane sugar for about 200-300 times more the sweet flavor. So with this natural herb that contains no calories, sugar and harmful substitutes have a literal run for their money with the competition being taken over by Steviva brands.

4. It is Healthy - Stevia is all natural and does not carry the health risks that other chemical sweeteners possess. In addition, it has zero carbs, zero calories, and zero effect on blood glucose. It can aid in weight loss, is an ideal substitute for diabetics, and great for any organic diet.

5. It is inexpensive - With its potent sweetness, stevia recipes do not take as much of the sweetener. So in turn a 16 oz. bag of Steviva is equal to about a 100 lbs. of sugar. When you compare the prices of the two, the budget and price of them in comparison are a vast difference as Stevia is much less expensive. ■

Global Trends in Food 'n Beverages

By Deepa Ranade

From Cretan black bread to South Korean black garlic, Indonesian Aloe Vera jelly, Canadian Maple syrup, cholesterol lowering Canola oil Taste 2011 showcased a whole new range of tasty and healthy food industry trends. We pick out the top 10 stalls at the exhibition.

TASTE 2011

Date: Jan 27-29, 2011
Venue: Hall V, Bombay Exhibition Center, Mumbai
Participants: 14 countries with national pavilions of Canada, Italy and France.
Products: Cheese, wine, olive oil, sea food, snacks, soft drinks, chocolates, maple syrup, coffee, processed foods and tableware.

Chef Kimball Bernard from Canada has temporarily lost his voice to an acute attack of laryngitis, but that's not stopping him from stirring up delectable storm of sea food dishes at the live kitchen, Taste 2011. He's dishing out best of Atlantic Canada shrimp cutlets laced with maple syrup and lightly braised salmon fillets. A round of Canadian wines is also being circulated. There's a crackle of culinary excitement at Taste 2011, Mumbai where 14 nations are showcasing their food and beverages innovative as well as traditional - to the Indian market.

Taste 2011 has national pavilions from France, italy and Canada exhibiting their national specialties. From Greece comes Crete's Co to share the secret of longevity inducing Cretan diet, Italy has it's flavoured olive oils and France displays a range of wines. Turkey has a variety of pastas from fettucini, penne to farafelle. From the Far East, Indonesia offers a range of jellies and pudding powders and teas. Dizzy, as the name suggests, the Australian wine stall, is attracting heavy patronage. And the Canadian pavilion is giving away samples of their famous maple syrup vials. All in all it is an infotaining session of global food trends in food and beverage.

Of the close to 50 stalls on the premises, we visited the ones that showed new foods and innovations thereof. So here are the top ten stalls at Taste 2011:

Crete's Co.

The basket of traditional Cretan diet

The value of Cretan nutrition is hailed the world over as the best example of Mediterranean diet. The Cretans use natural ingredients like wine, brad, cheese, honey, wild grass, fresh fruits and aromatic herbs in their cuisine. Olive oil is the basic product of Crete and has been the main element of Cretan diet for nearly 4500 years now! Wine is a part of its culture and it's consumption in mild doses is confirmed to lower the risk of coronary diseases by 20-60 per cent. The traditional black bread made from wheat, barleycorn and rye is fibre rich and has a rich nutritive value. Cretan herbs are said to be anti-ageing. For a healthy long life, Crete diet is fast gaining global popularity.

Crete's Co. Katharades, Creta, Greece
www.cretanproducts.gr

Natquid

The experience of liquid nature

Fresh and fragrant varieties of natural olive oil, from Coratina variety of olives which are the richest in natural antioxidants, are a pleasant novelty. These olives are picked at the right degree of ripeness from selected areas and without using any preservative, they are pressed together at very low temperatures. Thus keeping the aromas and flavours of fruit fresh intact through the cold press. Spices and vegetables are added to lend it an extra edge of flavoured benefit. All the kitchen spices garlic, chilli pepper, ginger, citrus fruits, rosemary celery, onion and thyme are individually incorporated in the oils. Each flavoured bottle is enough to turn every cooking-eating experience into a heady as well as a healthy one.

Natquid, Via Murge, Andria (BA), Italy
www.natquid.com

Canadian Maple Syrup

Pure Liquid Gold

Canada produces 85 percent of the world's maple syrup. With red, black and sugar maples, the country has an abundance of clear colored sap used to make maple syrup. There are 10,500 producers in Canada, with the largest number of them operating in Quebec. The country's aboriginal tribes taught the early settlers how to harvest the sap and boil it to manufacture maple syrup. It was the first standard sweetener of North America until 1875 when cane sugar became available.

Now consumed in 45 countries around the world, Canadian maple syrup products range from traditional maple syrup to maple sugar, maple butter, maple candy and cereals and yoghurts flavoured with it.

Maple syrup is growing beyond sweetening waffles and pancakes now, it has become a value-added product as a natural flavoring.
www.ats.agr.gc.ca

Resko

Ready to drink tea

Produced at their own estates in Indonesia, the company offers three varieties of tea packages:

• Bulk tea green and black

• Ready to serve tea bags and loose powder with vanilla, apple, rose, lemon and strawberry flavour options in black tea bags and Jasmine, peach, lemongrass, Darjeeling as premium tea bags. Pure green tea bags are also available.

• Ready to drink bottles fruit flavoured ice tea bottles

Resko, Kelapa Gading, Jakarta Utara,Indonesia
www.reksointernational.com

Ui-Seong Black Garlic

The magic pearls

Loaded with twice as many antioxidants as raw garlic, black garlic contains S-Allycysteine which is helpful in cancer prevention. It is produced by fermentation of garlic. On fermentation, the sugar and amino acid in it produce melanoidin, a dark-colored substance that is responsible for the color of black garlic. The taste is sweet and syrupy with hints of balsamic vinegar or even tamarind. Black garlic's popularity has spread to the United States as it has become a sought-after ingredient used in high-end cuisine. This South Korean black garlic brand is being marketed by Hyderabad based Mahendra Health Products in India.

It is said to prevent hypertension, lower cholesterol, improve insulin secretion and revitalise the body.
www.mahendrahealthproducts.com

Arbella Makarna

100 percent Duram Pastas

This is the leading manufacturer of pasta and semolina in Turkey. With state of the art, high-capacity production facilities in Mersin, they produces world class pasta of a great variety fettucini, linguini, spaghetti, butacini, tripolini, farfalle and fusili. They even manufacture fancy shaped pasta called loony toons.

Move over Italians, Turks are here with their pasta.

Arabella Makarna
Durum Gida, Kazani, Mersin, Turkey
www.arabella.tv, www.durum.com.tr

Oxford Frozen Foods

The goodness of wild blueberries

With its high anti-oxidant content, blueberries have become an eminent health product. Oxford is the world's largest supplier of frozen wild blueberries and Canada's largest processor of frozen carrot products. It is a small family-run business run from Nova Scotia town in Atlantic Canada. Their range also includes onion rings and a variety of cranberries, diced rutabaga.

The wild blueberries are individually quick frozen within hours of harvest, locking in their field freshness and goodness. They are as nutritious as the day they were picked on. Using the latest processing technology in the manufacturing facilities, they can process over three million pounds of wild blueberries a day during the harvest season. Their farm fresh blueberries are delivered all over the world.

Dolcezze Quotidiane
Daily delight chocolate

These delicious truffles of pure chocolate filled with nuts, rum, fruits and coffee in attractive packages makes for an ideal Valentine gift. These Italian chocolates are as novel as the soft almond Sicilian pastries that are available under the same brand.

Dolcezze Quotidiane
Nicosia, Italy
psmaesta@tin.it

IMO Foods Limited
Canned fish products

Operational since 1968, the company exports 85 per cent of its output of European style canned fish products. The processing plant at Yarmouth, Nova Scotia is fully integrated producing aluminum ring pull cans alongside fresh fish canning lines. It produces canned kippers in natural juice or oil, herring in a variety of sauces including tomato, mushroom, French onion, mustard, chili, barbeque sauce etc, fillets of Canadian sardines and smoked Atalntic mackerel fillets, herring roe and Atlantic salmon products. Delicious and nutritious, they don't use any artificial smoke favourings or chemical dyes.

IMO Foods Limited
Yarmouth, Nova Scotia, Canada
www.imofoods.com

Vindia Sto
Slovak wines

Importers of best brands of Central European wines to India and a representative of best of Slovak, Hungarian and Czech wines, this Slovak company is rather popular in India. Wine production has been the main agricultural activity in the Central European region for centuries. Vindia employs experts in wine making and trading from these parts. Their wines from Moravian producers have been awarded at several European competitions in Brussels and London.

Vindia, Samorin Slovakia
www.vindia.eu

Superior Quality of Naik Ovens

Naik Oven Manufacturing Co. is a partnership firm formed on 7th July 1999, by Prakash V. Naik & Ashish R. Sirsat on equal sharing basis. Both the partners have more than a decade long experience in the field of Rotary Rack Ovens. The Company is based out of Suchita Industrial Estate, Talwar Compound in an area of over 1600 sq. ft. Till date the Company has installed more than 100 ovens and has many satisfied clients, out of which most of them have given repeat orders. The company also has an ISO-9001-2008 Certification.

After a great deal of R&D, the Company came up with a well designed & hassle free operational Rotary Rack Oven. Demand for this oven is huge in this growing market. The Rotary Rack Ovens, being very fast in production, are sought after by many big and growing Bakeries & Hotels for quality productions. We can now state that we manufacture one of the best Ovens in India. The Ovens are also exported to Nigeria.

Some of our Clients are :

Nafees Bakery Indore; Vijaya Bakery Malvan; Kwality Bakers Chiplun; Kalory Ahmedabad & Surat; Alankar Bakery Miraj; Rajlaxmi Bakers Jamnagar; J.K.Bakers Thane, Thane & Yerewada Central Jail; Bemisal Bakery Ujjain; Jahagirdar Bakers - Nashik; Milkmaid Bread Pune; Chetak Biscuits Ulhasnagar; Hydary Bakery- Ujjain; Meghraj Bakery Nashik & many more. Most of these bakeries have more than one oven. ■

Lipid Profiles

Cooking fats and oils are lipid foods which also act as vitamin carriers. The oils and fats used in salad and cooking oils, shortenings and margarines, include the oils obtained from soybean, corn, cottonseed, palm, peanut, olive, rapeseed, safflower, sunflower, coconut and palm kernel and lard and tallow. An overview of form and function of lipid foods:

The term lipid refers to a collection of a diverse range of molecules or to some water-insoluble or nonpolar compounds of biological origin, including waxes, fatty acids, fatty-acid derived phospholipids, sphingolipids, glycolipids and terpenoids, like retinoids and steroids. Some lipids are linear aliphatic molecules, while others have ring structures. Some are aromatic, while others are not. Some are flexible, others rigid.

Most lipids have some polar character in addition to being largely nonpolar. Mostly, the bulk of their structure is nonpolar or hydrophobic ("water-fearing") which does not interact well with polar solvents like water. Another part of their structure is polar or hydrophilic ("water-loving") and which may associate with polar solvents like water. This makes them amphiphilic molecules (having both hydrophobic and hydrophilic portions). In the case of cholesterol, the polar group is a mere - OH (hydroxyl or alcohol).

Types of Fats

Lipids in food include the oils of such grains as corn, soybean, from animal fats, and are parts of many foods such as milk, cheese, and meat. They also act as vitamin carriers as well. Fats are of various types:

Saturated Fats:

These are mainly animal fats and are solid at room temperature. These fats include butter, cheese, whole milk, ice cream, egg yolks, lard and fatty meats. Some plant fats are also high in saturated fats such as coconut oil and palm oils. Saturated fats raise blood cholesterol more than any other food you eat. By using the right oils and fats for the right reasons, healthy benefits can be attained.

Unsaturated Fats:

These fats can come from both animal and plant products. These are of three types:

Monounsaturated Fats - Usually found in seeds or nuts such as avocado, olive, peanut, and canola oils. These fats are liquid at room temperature.

Polyunsaturated Fats - Usually obtained from vegetables, seeds, or nuts such as corn, safflower, sunflower, soybean, cotton seed, and sesame seeds oils. These fats are liquid at room temperature.

Trans Fatty Acids - Trans fats are produced when liquid oil is made into a solid fat, such as shortening or margarine. This process is called hydrogenation. Trans fats act like saturated fats and can raise the consumer's cholesterol level.

Based on the above classification, the ideal cooking oil should contain higher amounts of monounsaturated and polyunsaturated fats, with a minimal or no saturated fats and trans fats.

Cooking Fats

Different fats and oils have different uses. Each performs best within a certain range of temperature. Some are made for high heat cooking, while others have intense flavors that are best enjoyed by drizzling directly on food.

The smoke point of an oil or fat is the temperature at which it gives off smoke. The smoke point of oil depends to a very large extent on its purity and age at the time of measurement.

The oils and fats used for salad and cooking oils, shortenings and margarines, include the oils obtained from soybean, corn, cottonseed, palm, peanut, olive, rapeseed (canola), safflower, sunflower, coconut and palm kernel, in addition to lard and tallow.

Shortenings are fats used inside the preparation of a lot of foods. Since they convey a "short" and tender quality to baked goods, they are also referred to as shortenings. For many decades, lard and other animal fats were the principal edible fats utilized in shortenings inside this country, but over the last third of a 19th century, good quantities of cottonseed oil became accessible as a byproduct from the growing of cotton.

The very first semisolid shortenings containing vegetable oil were prepared by blending fluid cottonseed oil with solid animal fats. These were known as compound shortenings.

The introduction of the hydrogenation procedure in the first 1900s initiated a new era in the manufacture of shortening. For that first time, semisolid shortenings could be prepared entirely from vegetable oils, and shortening manufacturers were no longer dependent on top of the availability of animal fats. When hydrogenated shortenings may be made from a single vegetable oil, lots of are made from a blend of two or ample hydrogenated oils.

The conditions and degree of hydrogenation many be varied for that various types of oil to reach the characteristics desired. Therefore, the manufacture of hydrogenated shortenings affords considerable flexibility, and thereby offering a wide choice of finished shortening characteristics.

Source: Harvard School of Public Health. ■

Health Benefits of Plant Sterol Enriched Rye Breads

A recent study indicates that consumption of a plant sterol-enriched rye bread for two weeks led to a five percent reduction in total cholesterol levels, and an eight percent reduction in LDL cholesterol levels, according to findings published in Nutrition, Metabolism and Cardiovascular Diseases by Päivi Söderholm from the University of Helsinki, Finland.

The findings show that coupled with rye breads own health-promoting properties, the combination of plant sterol and high fibre bread is an attractive dietary modification that can easily be put into practice as a functional food.

The authors said that high serum levels of LDL cholesterol is a well established risk factor for cardiovascular disease, and thus an important target in drug and dietary treatment trials.

However they noted that consumers with normal cholesterol levels (normocholesterolemic) are also likely to purchase functional foods with the aim of reducing LDL cholesterol and total cholesterol.

Plant sterols occur naturally in vegetable oils, nuts, seeds and grains, and possess serum cholesterol-lowering properties. Among the food industry they are widely used ingredients for functional foods aimed at reducing cholesterol.

Numerous clinical trials in controlled settings have reported that daily consumption of 1.5 to 3 grams of phytosterols/stanols from foods can reduce total cholesterol levels by eight to 17 per cent, representing a significant reduction in the risk of cardiovascular disease.

High fibre, whole grain cereals also may also possess certain cardiovascular health benefits, which according to the researchers include serum LDL and total cholesterol lowering properties.

Söderholm and colleagues said that low-fat foods have been successfully introduced as carriers for such nonesterified plant sterols. They said that if high-fibre cereals are shown to be effective vehicles for enrichment with plant sterols, the resulting products could provide improved cardiovascular protection and health benefits.

High fibre, whole grain cereals also may also possess certain cardiovascular health benefits, which according to the researchers include serum LDL and total cholesterol lowering properties.

The dietary intervention trial subjects were randomized to receive a rye bread with added plant sterols (in either 2 grams per day or 4 grams per day) or without any plant sterol (control group).

According to the study, intake of rye bread enriched with 2 g/d of plant sterols significantly reduced serum total (5.1 percent reduction) and LDL cholesterol (8.1 percent), apoB/apoA1 (8.3 percent), and total cholesterol/HDL cholesterol ratios (7.2 percent reduction).

The authors reported that four grams per day led to reductions of over 10 percent in LDL cholesterol levels, and significantly reduced all other measures of lipid risk factors.

Source: Nutrition, Metabolism and Cardiovascular Diseases "The effect of high-fibre rye bread enriched with nonesterified plant sterols on major serum lipids and apolipoproteins in normocholesterolemic individuals"

Authors: P.P. Söderholm, G. Alfthan, A.H. Koskela, H. Adlercreutz, M.J. Kanen. ■

Greater Demand 'Green' Palm Oil

RSPO Urges Brisker Market Uptake

In order to keep up with the unprecedented surge in the demand of sustainable palm oil, the production as well as the market uptake will need to accelerate in 2011, stated the Roundtable on Sustainable Palm Oil (RSPO).

Incidentally, the RSPO was set up in 2004 to promote use of sustainable palm oil and switching over to palm oil that is sustainable or supports green palm certification. The green option has become a major trend for food manufacturers and retailers recently.

Palm oil is a vital ingredient in a vast range of food and personal care products, but the increased palm plantation has serious repercussions on the environment. The growing volume of palm plantations have resulted in clearing of habitats for endangered species like tigers and orang-utans in South Asia as well as added the carbon emissions.

Jan Kees Vis, RSPO executive board president, informed that many companies have pledged to switch to RSPO-certified sustainable palm oil fully by 2015, but until then, it will be important that major users of palm oil like confectionery and food manufacturers match a rising supply with rising market demand.

The RSPO claims that the number of its members grew to over 500 companies and organizations, while 81 palm oil mills and 113 facilities in the

palm product supply chain are now fully certified.

RSPO has a three-pronged trading system: 'segregation', whereby sustainable palm oil is kept apart throughout the entire supply chain from plantation to user; 'mass balance', where refineries ensure the volume of certified oil they sell is equal to that which they buy; and 'book and claim', where users buy vouchers that cover the premium for the quantity of oil they use, but the oil they receive has not necessarily been sustainably produced.

So far a sizeable number of food manufacturers has committed to a date by when they will exclusively use sustainable palm oil in their products.

Nestlé, which uses the ingredient in its Kit Kat and Aero bars along with its Quality Street range, bolstered its sustainable palm oil commitments in May 2010 by partnering with non-profit organisation, The Forest Trust (TFT).

In November 2010, all the suppliers and buyers in the Dutch market pledged to use only RSPO certified palm oil by 2015. ■

US Confectioners Rejoice

Solution in Sight to Mexico Trucking Dispute

The on-going trading dispute between US and Mexico, which had prompted Mexico to impose tariffs on 99 US exports, may soon be resolved. The National Confectioners Association (NCA) has welcomed the US government's initiative which proposes to allow Mexican trucks into the US after truck inspections and review of drivers' records. The $45m worth of US confectionery exports are subject to the tariffs and hence the celebratory mood!

NCA's president Larry Graham on behalf of the association urged the members of Congress to support any reasonable new agreement so that US candy makers can grow exports in line with the Obama Administration's goal of doubling exports in five years. "Mexico represents an important market for our industry," he added.

The Mexican government has introduced tariffs of five to 25 percent on a range of 99 US products over the past two years in retaliation for a US block on Mexican cargo trucks crossing the border. A 20 percent tariff was applied last year to American chocolate and gum being shipped into Mexico, prompting a vociferous protest from US confectioners. President Obama, in August 2009, assured NCA that he was committed to finding a solution.

Other food items affected by the tariffs include chocolate, a range of fruits, vegetables, nuts, seeds, juices, soups, sauces, cheeses, and pork products. Mexico being the United States' largest export market for pork. ■

Hike In Coconut Prices

Due to bad harvest in Kerala, causes concern for UK confectioner

Never mind the record sales that UK confectioner, Lees Foods has posted recently, the company is battling with the shooting prices of coconut. Lees claims a 2.5 per cent rise in their sales over the past year. However, the company is earnestly trying cope with the recent surge in coconut prices and also with the hiked pricing of packaging material through improved efficiencies. Lees proposes to pass on a proportion of input costs to its customers.

Coconut prices have risen from £0.73/tonne to the current price of £1.75/tonne in recent months and costs in plastics and packaging have also increased at a double digit rate.

Lees, the Scottish sweet maker, uses coconut in many of its products such as macaroon bars and snowballs.

Analyst group, Shore Capital, points out building pressure from the hike in coconut prices on the Scottish confectioner, and they estimate up to six months in terms of rebound from such cost pressures. The analysts thus downgraded profit forecasts for Lees from £1m to £800,000 for 2011.

Bad weather has adversely affected coconut production in India, the coconut harvests in Kerala, which grows more than a third of India's coconuts, has slipped from 15 to 20 per cent this year.

Sri Lanka, one of the leading producers of coconuts, tried to control the coconut prices by banning illegal felling of coconut trees.

The unprecedented hike coconut prices is attributed to farmers taking up growing alternate crops like rubber owing to persistent low prices for years together with increasing cost of fertilizer. ■

Three-Course Meal Chewing Gum In Market Soon

Bite into Tomato Soup, Roast Beef, Baked Potato, Blueberry Pie and Ice Cream Flavoured Gum!

Dieters are in for a treat if the three-course dinner chewing gum hits the market with in a year as London-based Bompass & Parr claims. Willy Wonka's dream three-course meal confection is all set to hit the markets by 2012.

Bompass & Parr spokesperson said that the company has created two prototype flavour-changing gums in its labs late last year, both using colloidosome flavour encapsulation technology. One gum enables the chewer to experience strawberry then chocolate flavours, while the other makes the switch from passion fruit to foie gras.

The only obstacles in creating Wonka's famous three-course dinner gum tomato soup, roast beef and baked potato, blueberry pie and ice cream appears to be controlling the delayed release of individual flavours.

The nano-technology used by Bompass & Parr was more effective

for flavour-changing gum than the flavour encapsulation techniques used earlier. The former involves hollow spheres called colloidosomes each fabricated from a shell composed of colloids (ultra-microscopic particles) that could encapsulate active ingredients such as flavours.

The nature of colloidosomes could be altered so that some broke up on contact with saliva, or were made with varying levels of elasticity, meaning that they ruptured at a certain shear stresses.

The firm claims that it would be possible to make saliva-soluble colloidosomes with a tomato soup flavour, some with a medium structural strength containing beef and potato flavour and some high strength with blueberry and ice cream. But it would require different chewing strengths - like a gentle chew for the tomato soup flavour, a medium work-out for roast beef and potato, and a hard chew for the dessert! ■

DuPont To Acquire Danisco

Making it a Global Leader in Industrial Biotech

Danisco is to be bought out by DuPont for $6.3bn, in a deal which could turn Dupont into a global leader in industrial biotech. Their synergy would provide science-based solutions to the world's food and fuel challenges.

Danisco, the Danish biotech company has been considered a prime acquisition target since its sugar division was sold to Nordzucker in 2009. The offer from DuPont is for $5.8bn plus assumption of $500m in debt, through the purchase of all shares.

Danisco expected group revenue of around DKK 15.3 bn up from a previous expectation of DKK 15bn. Cultures and enzymes (Genencor) are expected to see growth of 7 to 9 per cent, and enablers and sweeteners of 3 to 5 per cent.

Danisco and DuPont have already partnered over the development of second generation biofuels.

The acquisition, which is expected to close in Q2 2011. Danisco officials said that DuPont has signalled research business activities will remain in Denmark, but it is too early to say whether any employees will be laid off as a result of the acquisition. ■

Anti Obesity Caralluma Plant Extract

A Rat Study Reiterates its Slimming Effects

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Omega-3 Fatty Acid May Reduce Traumatic Brain Injury

A Boon for Sportsmen and Soldiers

Supplements of the omega-3 fatty acid DHA (docosahexanoic acid) may prevent traumatic brain injury, according to a new rat study. This discovery has great implications for sportsmen and soldiers. Researchers from West Virginia University, USA found that rats who received the highest dose of DHA supplementation prior to traumatic brain injury experienced the least amount of tissue damage.

The results, albeit preliminary, have been described as "intriguing" by Dr Julian Bailes, lead researcher of the study. If the study's findings are repeated in additional studies then it may see DHA recommended for people at high risk of traumatic brain injury, like military personnel and athletes who participate in contact sports.

"The essential concept of daily dietary supplementation with DHA, so that those at significant risk may be preloaded to provide protection against the acute effects of [traumatic brain injury], has tremendous public health implications," wrote the West Virginia-based researchers.

Writing in the journal Neurosurgery, Dr Bailes and his co-workers report results of their study, which involved groups of 16 adult male rats. The animals received daily DHA doses of 0, 3, 12, or 40 mg/kg for 30 days prior to a traumatic brain injury.

Results showed that animals receiving the highest dose had significantly reduced brain tissue damage, compared to the other animals.

"Dietary supplementation with DHA increases serum levels and, if given prior to traumatic brain injury, reduces the injury response, as measured by axonal injury counts, markers for cellular injury and apoptosis, and memory assessment by water maze testing," state the researchers.

Source: Neurosurgery February 2011, Volume 68, Issue 2, Pages 474-481 "Dietary Supplementation With the Omega-3 Fatty Acid Docosahexaenoic Acid in Traumatic Brain Injury?"

Authors: J.D. Mills, K. Hadley, J.E. Bailes ■

Dairy Functional Foods, A New Trend?

As Preventive Dose and Alternative Therapy

It's a brave new world where things are changing rapidly. Why even milk is changing its form now and health and nutrition conscious consumers are keen to switch over to functional products in milk and dairy products. Indian researchers Z.F Bhat and H.Bhat recognise a great market potential for foods with altered nutritional characteristics but unchanged sensory attributes, given consumer unwillingness to change dietary habits.

In the International Journal of Dairy Science, the researchers write that consumer perceptions have changed to the extent that more now believe that foods contribute directly to their health, especially given concerns over nutrition-related illnesses such as diabetes and cardiovascular disease.

The demand for functional foods is leading to raw material export opportunities for developing countries where demand for finished products is not so great.

Milk and dairy products have been associated with health benefits since medieval times, said the authors, due to "biologically active components present in milk and…their suitably modulated activities produced through the action of probiotic bacteria in fermented milk products.

"Functional proteins, bioactive peptides, essential fatty acids, calcium, vitamin D and other milk components have favourable health effects on the immune and cardiovascular systems, as well as gastrointestinal tract and intestinal health."

For instance, within fermented dairy products, probiotics exert a positive effect on the human immune response, modulating cytokine and antimicrobial peptide production (Trevichavsky and Splichal 2006).

The authors describe mammalian milk as a "complex mixture" of proteins, lipids and saccharides that contrains antimicrobial agents; over 60 enzymes aid digestion and have important antioxidant and antimicrobial characteristics, while bioactive peptides (many of which are found in cheese) are considered beneficial in preventing obesity and diabetes.

Whey proteins within milk, meanwhile, have "antimicrobial, anticarcinogencic, immunostimulatory" effects and may reduce fat deposition and improve insulin sensitivity as well as prevent cancer.

"Evidence of health benefics associated with specific components or bacteria in dairy products is gaining scientific credibility," write Bhat and Bhat.

"Functional milk components significantly contribute to the prevention of diseases like hypertension, coronary vascular diseases, obesity, osteoporosis, cancer, diabetes and some transmissible diseases."

Title: 'Milk and Dairy Products as Functional Foods: A Review'

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Authors: Bhat, Z.F and Bhat. H ■

शहद के गुण

श्री नरेश एम फटींग NGO का काम करते है। MSME में शहद का प्रचार करने आये थे जो साकीनाका में १८,१९,२०, फरवरी को हुआ था, यह शहद सिर्फ Exhibition में ही उपलब्ध होता है। यह शहद बाजार में उपलब्ध नहीं है।

'वनामृत' यह शहद आदिवासी विकास विभाग महाराष्ट्र शासन तथा राष्ट्रीय कृषि और ग्रामीण विकास बैंक (नाबार्ड) के. एफ डब्लु विकास बैंक, जर्मनी के यु.पी.एन. आर.एक (अंब्रेला प्रोग्राम फॉर नॅचरल रिर्सोसेस मॅनेजमेंट) के अंतर्गत विदर्भ की नैसर्गिक संपत्ती को नष्ट होनेसे बचाने के साथ आदिवासीयों की आमदनी बढाकर उनका जीवन सुधारने के लिए चलाया गया उपक्रम है। मधुमक्खी से परागन की क्रिया होती है तथा उससे बीज निर्माण होकर फल एवं खाद्यान्न उत्पादन में वृध्दि होती है। इस उपक्रम के कारण 'मधुमक्खी' यह नैसर्गिक संपत्ती नष्ट होने से बच जाती है, साथ ही उनकी वृध्दि होकर उत्पादन मे वृध्दि होने में मदद होती है। आपके 'वनामृत' शहद खरीदने के कारण आदिवासीयों की आर्थिक मदद हुई है।

इस NGO के मालिक कौन है और संस्था को कैसे चलाते है ?

उत्तर–एच. एम. डी. मूर्ति इस NGO को चलाते है। वे पारंपारिक तौर पर आदिवासी लोगो को सिखाते है कि किस तरह से छत्ते को तोड़े बिना

शहद जमा करना चाहिए। उन्हें पोशाक भी दी जाती है। हम सिर्फ Exhibition में ही अपना शहद बेचते है। हमारी संस्था हमारा सारा खर्चा करती है।

टापके शहद क्यो प्रसिध्द है ?

उत्तर–हमारे शहद इसलिए प्रसिध्द है क्योंकि आदिवासी लोग जो शहद निकालते हैं उसमें किसी भी तरह कि मिलावट नहीं होती है। यह 100% शुध्द होता है। यह शहद बाजार में उपलब्ध नहीं है क्योंकि हमें डर है अगर हम इसे दुकानों में भेजेंगे तो दुकानदार इसमें chemical मिलाकर बेच सकते है। इससे हमारी संस्था का नाम खराब हो सकता है।

सस्था शहद का प्रचार किस तरह से करते है और यह कहाँ कहाँ उपलब्ध है ?

उत्तर–यह शहद हम सिर्फ म्गीपइपजपवदे में ही रखते है। हमारा सारा माल Exhibitions में खत्म हो जाता है। हम सारे Exhibitions में हिस्सा लेते है। हमारा माल हमे कम पड़ जाता है। यह शहद हाथों हाथ बिक जाता है। हमारा कोई भी वितरक नही है। हम Exhibitions मे जाकर खुद बेचते है।

शहद कितने समय तक रह सकता है ?ये खराब कब होता है ?

उत्तर–शहद लंबे समय तक रह सकता है। यह कभी खराब नही होता है।

अगर लम्बे समय तक शहद रहे तो वो गाढा क्यों हो जाता है ?

उत्तर–पीले रंग के फूल से जमा किए गए शहद में ग्लुकोज की मात्रा फुक्टोज शक्कर से अधिक होने के कारण थंडी के दिनो में वह गाढा होता है, जो पूरी तरह प्राकृतिक है। ऐसे गाढे हुए शहद की बोतल को गरम पानी में रखने से वह पतला हो जाता है।

शहद के फायदे बताये ?

उत्तर–'वनामृत' शहद का सेवन करने से रक्त संचार नियंत्रित होता है। गरम पानी के साथ लेने से शरीर का मोटापा कम होता है। शरीर को आवश्यक कॅलशियम और हिमोग्लाबीन बढ़ाने में मदद होता है। शहद में उपस्थित प्रोटीन, डक्सट्रोज तथा फुक्टोज के कारण शारीरिक थकान दूर होती है। शहद को हृदय रक्षक कहा जाता है। शहद चेहरे पर लगाने से झुरीयाँ, मुँहासे और चेहेरे के दाग नष्ट होते है। ■

Umami

Umami-पाँचवे स्वाद का रहस्य
Umami-पाँचवे स्वाद का भाव
Umami- एक ऐसा जापानी शब्द है जो स्वाद के पाँचवे भाव के बारे में बताता है जो कड़वा, नमकीन, खट्टा और मिठे स्वाद के बाद आता है।

इसके बावजूद की इसे 100 वर्ष से अधिक विशेष रूप से जापान में जाना जा रहा है। यह वेस्ट मे अपेक्षाकृत एक नया अवधारणा है, जहाँ पर सिर्फ प्राथमिक चार तरह के स्वाद ही पहचाने जाते है। जापान में Umami का मतलब है स्वादिष्ट पर इसका अनुवाद सबसे अच्छा है। Savouriners में और यह मांस में ''मांस का स्वाद'' प्रदान करता हैं, यह बनता है glutamates से और receptors से डिटेक्ट हुआ है। यही कारण है यह monosodium glutamate (MSG) एक स्वाद बढ़ाने के रूप में इस्तेमाल किया जाता है। यह मांस, चीज, और मशरूम में प्राकृतिक रूप में पाया जाता है।

वास्तव में Umami क्या है?

अगर जापानी भाषा में इसकां नाम लें तो Umami एक सुखद Glutamate, Aminoacid और ribonudeolides का प्रकार है। जिसमें insosinate और guanylato है जो प्राकृतिक रूप मे काफी खाद्य पदार्थो में है। मांस, मछली, सब्जियों और डेयरी उत्पादो सहित पाये जाते है। Umami का स्वाद खुद में सक्षम है, और अन्य स्वादों के साथ यह अच्छी तरह blend हो जाता है खास कर जायकों मे, ज्यादातर लोगों की जब Umami से मुठभेड होती है तो वह Umami को पहचान नहीं पाते लेकिन यह खाने के स्वाद को स्वादिष्ट बनाने की महत्वपूर्ण भूमिका निभाता है।

Umami क्रांति 1908 में तब शुरू हुई जब टोक्यो रसायनज्ञ kikunac Ikeda ने उच्च Glutamate वाले खादय पदार्थों में एक स्वाद के रूप में पहचान की, उन्होंने पहली बार समुद्री में उच्च हैशैवाल, kombu विशिष्ट स्वाद, जो अपने आप में रासायन में उच्च है से सर्तक करवाया गया था। अपने काम ने उन्हे monosodium glutamate (MSG), विवादास्पद स्वाद बढ़ाया जिसके बाद वह दुनिया भर में प्रसिद्ध हो गए। फिर 2000 में मियामी विश्वविद्यालय में शोधकर्ताओं ने खेाजा की जीभ में स्वाद संवेदन होते है जो Glutamato को भोजन में प्रोटीन की उपस्थिति के बारे में बताते है। जिसे शरीर को जरूरत है Umami द्वारा प्रस्तुत अवसरों के बाद से दुनिया भर के रेस्तरा और सेलिब्रिटी शेफस जिसमें Heston Blumenthal भी शामिल हैं जो जान बूझकर Bray Berkshire के फैट डक रेस्तरां में से भरी व्यंजनो के प्लेटो द्वारा शोषण किया गया था।

खाद्य स्वीकार्यता और Umami जब मनुष्य खाते हैं, वे अपने भोजन के बारे में सामान्य रूप से जानने के लिए अपनी सभी इंद्रीयों का उपयोग करते है। जैसे की (दुष्टी, श्रवण, गंध, स्पर्श और स्वाद) है। लेकीन यह स्वाद है जो स्वादिष्ट भोजन का निर्धारीत करता है कि यह कितना प्रभावशाली है। पारंपारिक रूप में यह सोचा गया है की स्वाद में हमारी समझ के अनुसार सिर्फ चार मूल ही शामिल है। या प्राथमिक स्वाद जो एक साथ अन्य प्राइमरी मिश्रण के साथ नही दोहराया जा सकता जैसे मीठा, खट्टा, नमकीन और कड़वा, हालांकि अब यह ज्ञात है की अब वास्तव में Umami एक पांचवा प्राथमिक स्वाद है Glutamate अब स्वाभाविक रूप में मांस, अंडा, समुद्री भोजन और सब्जियों के रूप में ज्यादातर खाद्य पदार्थों मे मौजुद है। दो प्रकार के nudeotides जो सबसे ज्यादा Umami स्वाद में योगदान देते है वह है insosinate और gunylate जो और भी अन्य खाद्य पदार्थो में पाया जाता है, जबकी guanylate अधिकतर पौधों में प्रचुर मात्रा में पाया जाता है, अन्य nudeotide adenylate, मछली और शंख में प्रचुर मात्रा में पाया जाता है। इस पृष्ठ पर खाद्य पदार्थों में Umami तत्वो की अधिक मात्रा होती है।

समुद्री खादय

- kombu
- समुद्री भौवाल (seaweeds)
- katsuobush/ सूखे bonito गुच्छे
- niboshi/ लघु सूखे सार्डिन
- Bonito माकरेल (समुद्री मछली)
- समुद्री ब्रीम • टूना • कॉड • झींगे
- व्यंग्य • कस्तूरी • कस्तूरा
- मास, • बीफ • पोर्क • चिकन
- सब्जियाँ , • टमाटर • Shiltake मशरूम
- Enokitake मशरूम • Truffles • सोया सेम
- आलू • ाकंरकद • चीनी गोभी • गाजर
- अन्य • Parmesan पनीर • हरी चाय
- सोया सॉस • चिकन के अंडे • Oyster Sauce ■

मेपल सिरप

मेपल सिरप चीनी की तुलना में एक स्वस्थ स्वीटनर हैं। क्यूबेक और कनाडा मेपल सिरप में दुनिया की अपूर्ति का सबसे बड़ा उत्पादन करता है और यह भारतीय बाजार में भी अपनी जगह खोज रहा है।

मेपल सिरप मेपल के पेड के सैप से आता है। 3–4 मेपल के पेड़ या पौधों का रस या 30–40 गैलन के रूप में जरूरत इसकी पड़ती है। एक गैलन शुध्द मेपल सिरप बनाने के लिए ठडे जलवायु वाले क्षेत्रों में सर्दियो से पहले मेपल के पेड़ अपनी जड़ों में चीनी जमा कर लेते है और सैप जो कि वसंत के मौसम में उगता है उसको इक्ट्टा करके रखा जा सकता है। मेपल सिरप को उसके सैप से निकालने की एक लंबी और दर्दनाक प्रक्रिया है इसी कारण यह बहुत मंहगा है। इसकी उच्च चीनी सामग्री के बावजूद, शुध्द मैपल सिरप अपने आप को एक बहुत स्वस्थ स्वीटनर के रूप में सक्षम बनाने में कामयाब हुआ है। आम चीनी के मुकाबले में इसके निर्माण के दौरान ही उसके पोशक तत्व निकाल लिए जाते है। आज क्यूबेक और कनाड़ा मैपल सिरप के सबसे बड़े उत्पादनकर्ता है।

मेपल सिरप अक्सर waffles पैनकेक्स, दलिया, crumpets और फ्रेंच टोस्ट के साथ खाया जाता है। इसे भी बेकींग में एक घटक के रूप में इस्तेमाल या एक स्वीटनर और स्वादिष्ट बनाने का मसाले एजेंट के रूप में इस्तेमाल किया गया है। Sucrose मेपल सिरप में सबसे अधिक प्रचलित चीनी है।

मेपल सिरप को कनाडा, अमेरिका या वरमोंट मे इसकी घनत्व और translucency के आधारित पैमाने के अनुसार वर्गीकृत किया गया है। कनाडा में सिरपस के कम से कम 66 प्रतिशत योग्य होना चाहिए मेपल सिरप कि तुलना में होने के लिए । अमेरिका मे कोई भी सिरप जब तक पुरी तरह से मेपल के सैप से नहीं बनाया जाता तब तक मेपल को लेबल नहीं लगाया जा सकता। मेपल सिरप और शुगर मेपल के पेड़ कनाड़ा और कई अमेरिकी राज्यों, खासकर वरमोंट के प्रतीक है।

उत्तर अमेरिका के पूर्वोत्तर भाग में रहने वाले आदिवासी लोग मेपल सिरप और मेपल चीनी के सबसे पहले उत्पादनकर्ता माने जाते है। उनके मौखिक परंपरा के अनुसार और पुरातात्विक साक्षय के अनुसार मेपल पेड़ के पौधे का रस जिसे वे ''मीठा पानी'' भी कहते है। मेपल सिरप का उत्पादन उत्तर अमेरिका के कुछ कृषि प्रक्रियाओं में से एक प्रकार है। यह यूरोपीय औपनिवेशिक आयात नहीं है। लेकिन उत्तर पूर्वी उत्तर अमेरिका में यूरोपीय उपनिवेशवाद के प्रांरभिक दौर मे मूल के लोगों ने आए हुए colonist को दिरवाया कि वसंत के आगमन के दौरान मेपल की फसल को कैसे पिघलाया और कटा जाता है। 1680 से यूरोपीय settlers और फर व्यापारी भी इस कटाई में शमिल थे। 17 वी और 18 वी शताब्दियों

के दौरान चीनी दोनों तरल और सघन ठोस रूप में गाढी शुगर का स्त्रोत है।

मेपल सिरप का उत्पादन पूर्वात्तर उत्तर अमेरिका मे केंद्रित है, लेकिन मौसम की सही परिस्थिति देने पर मेपल के पेड़ो को विकसित कर सकते है। आम तौर पर चीनी मेपल (Acer Saccharum)] लाल मेपल (Acernigrum) का उपयोग किया जाता है। सैप में उच्च चीनी सामग्री लगभग 2 से 5 प्रतिशत तक पाई जाती है।

मैपल का उपयोग शुरूवात मे आमतौर पर 30 से 40 वर्ष की आयु से की जाती है। हर पेड़ के बीच मे एक और तीन नल का समर्थन अपने ट्रंक के आधार पर कर सकते है। औसत मेपल के पेड़ पौधो का रस मौसम के अनुसार, प्रति दिन 12 लीटर तक के बीच 35 से 50 लीटर का उत्पादन होगा यह मोटे तौर पर इसका कुल सार 7 प्रतिशत के बराबर है।

दुनियाभर के मुकाबले कनाड़ा 80 प्रतिशत ज्यादा मेपल सिरप बनाता है। और इसकी भारी मात्राा क्युबके से आती है जो दुनिया का सबसे बड़ा उत्पादनकर्ता है वह लगभग 75% तक का निर्माण करता है।

वरमोंट अमेरिका का सबसे बड़ा निर्माता है, और उसके पीछे है, विसकॉनसिन, ओहियो, न्यू हैम्पशायर, मिशिगन, पेंसिल्वेनिया, (मैसाचुसेट्स, और कनेक्टिकट मेपल सिरप का छोटे पैमाने में उत्पादन किया जाता है जैसे जापान और दक्षिण कोरिया मे)।

मेपल सिरप कैलोरी वार चीनी के समान है, लेकिन मैंगनीज, जस्ता शहद की तुलना का एक स्त्रोत है, मेपल सिरप में 15 बार ज्यादा कैल्शिंम है और 1/10 बार ज्यादा सोडियम है, मेपल सिरप और उसके कृत्रिम नकल के सिरप का इस्तेमाल पैनकेक्स, waffles, और फ्रेंच टोस्ट के लिए टॉपिंग्स के रूप में है, उत्तरी अमेरिका में मेपल सिरप का इस्तेमाल स्वाद के लिए खाद्य पदार्थों की एक किस्म की तरह किया जा सकता है, जिसमे बिस्कुट, पकौड़े, आइसक्रीम, गर्म अनाज और ताजे फल भाामिल है इसे ऐपल सॉस baked bean, शकरकंद, winter squash, केक, पाईस, ब्रॅड, फड़ज, और अन्य तरीके की candy मिल्क शेक, चाय, कॉफी और गर्म toddie में sweetner के रूप में इस्तेमाल किया जाता है। मेपल सिरप का वाईन में शब्द के स्थान पर भी इस्तेंमाल किया जा सकता है। ■

काला लहसून

काला लहसून सुंदर है । काला लहसुन एक नया खाद्य पदार्थ हैं। जो कि स्वास्थ वर्धक होने के कारण लोकप्रिय होता जा रहा है। स्वास्थ के लिए उत्तम कच्चे लहसुन के मुकाबले दोगुने एंटीऑक्सीडेटस से भरा हुआ है। इसे कैसर निवारक भी कहा जाता है। अतः काला लहसुन आयुवैद मे महत्वपूर्ण स्थान रखता है।

काले लहसुन में मीठे और खट्टे पन का स्वाद होता है। इसमे जैली जैसा लचीलापन है और खट्टे लहसुन का सही मिश्रण होता है। इसमे मुलायम और जैली जैसी

बनावट होती है जो एक नरम सुखे मेवे की तरह मुँह मे पिगल जाता है। जिसे यकीन करना मुश्किल हैं लेकीन यह सच है। यह स्वाष्टि होने के साथ–साथ अनोखा भी है ।

कल्पना कीजिए लहसुन को सभी कष्टप्रद सामग्री के बिना, बुरी दुगर्ध, तीक्षण गंध और तीखा काटने यह सभी मे से काले लहसुन की वेरायटी मे कुछ भी नही है।

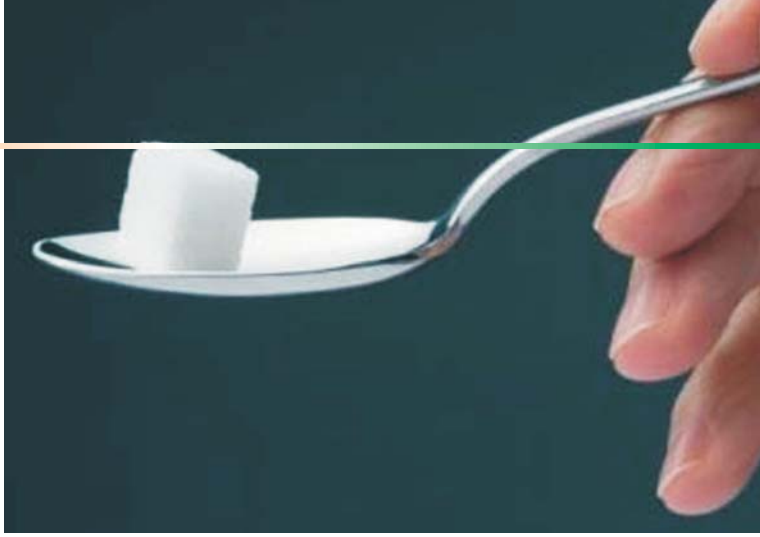
टायोसम पौराणिक कथाओं मे अफवाहें थी कि काला लहसुन अमरत्व देता है। हम आपसे यह वादा नही करते, लेकिन इसमें कोई शक नहीं की काला लहसुन हमारी सेहत के लिए अति उत्तम है। यह काला लहसुन लगभग दोगुने एंटीऑक्सीडेटस से भरा हुआ है। इसमें S. Ally cysteine की भी मात्रा है ऐसा कहा जाता है कि प्राकृतिक यौगिक हैं जो कैसंर की रोकधाम में एक कारक साबित हो गया है।

लहसुन काला कैसे होता है। काला लहसुन खमीर से उत्पन्न होता है। यह एक ऐसी तकनिक हैं जो हजारों सालों से चारो ओर फैल हुई है। लहसुन में शक्कर और ऐमिनो एसिड कि मात्रा होती है। जब लहसुन खमीर होने कि प्रतिक्रिया में जाता है तब यह दोनो तत्व उमसंदवप कपद पैदा करते हैं जो एक गहरे रंग का पदार्थ है। जो काले लहसुन के रंग का जिम्मेदार होता है। यह एशियाई व्यजनों में एक खाद्य पदार्था में प्रयोग क्रिया जाता हैं। काले लहसुन की लोकप्रियता अमेरीका तक फैल गयी है और काले लहसुन को वहाँ के उच्च व्यंजनो में इस्तेमाल किया जाता है।

काले लहसुन की खोज पहली बार 2005 में एक जापानी शोधकर्ता द्वारा शुरू की गई थी हलाकि बहुत लोगों ने सोचा की कोरिया और थाईलैंड के व्यंजनों में इसका लंबा इतिहास है, यह अपेक्षाकृत एक नया उत्पादन है और इसे कभी भी आज तक कोरियाई भोजन में इस्तेमाल नहीं किया गया था। कोरिया में काले लहसुन को स्वास्थ्य उत्पादन के रूप में पेश किया गया है। और आज तक इसे स्वास्थ्य अनुपूरक भोजन के रूप में माना जाता है। काला लहसुन एक एंटीऑक्सीडेंट में अमीर भोजन और उर्जा पेय के लिए बहुमूल्य माना जाता है। थाईलैंड में इसे उपभोक्ता की लंबी उम्र बढ़ाने का दावा किया है। और इसका एक दिलचस्प प्रयोग काले लहसुन चॉकलेट के निर्माण में है।

संयुक्त राष्ट अमेरिका में काले लहसुन ने 2008 में मुख्य धारा में प्रवेश किया जब सैन फ्रांसिस्को में Le Sanctuaire ने काले लहसुन कि बिक्री शुरू की वर्ष 2008 में काले लहसुन ने यूरोप में काले लहसुन के वितरण के लिए कैटी हीथ के साथ साझेदारी की है। दोनो कंपनियों ने काला लहसुन लिमिटेड कंपनी बनाई और इसका वितरण U.K., और अन्य यूरोपीय देशों में किया गया। काले लहसुन का प्रयोग अब इंग्लैंड में भी शुरू हो गया है, और फरवरी 2009 में सप्ताहिक खाना पकाने और जीवन शैली कार्यक्रम के लिए बीबीसी टीवी पर की गई टेस्ट 2011, एक विषेश और शराब प्रदर्शिनी हाल ही में मुंबई में आयोजित की गयी थी जिसमें एक हैदराबाद स्थित वितरक जलद ही भारत में काले लहसुन का जादू फैलाने वाला है।

वर्श–2009 में ओलिविरिया द्वारा ब्लैक लहसुन ऑस्ट्रेलिया में भी भारू किया गया, मैलर्बन मे काला लहसुन स्टोर अब पूरे ऑस्ट्रेलिया के चुने हुए बाजार में पायेजा सकते है। ■



चीनी और चीनी के विकल्प के साथ पकाना

पके हुए माल में मिठास जोड़ने के अलावा, चीनी कुकिज में नमी और कोमलता प्रदान करती है। जब यह बेक होता हैं तो चीनी पिघल जाती है और तैयार उत्पादों की शेल्फ life बढती है और उच्च तापमान पर caramelize भी करता है।

चीनी पाक में कई तरह की महत्वपूर्ण भूमिकाएँ निभाती है। यह नमी और कोमलता प्रदान करती हैं । बेकींग के दौरान यह पिघल जाती है। तैयार उत्पादों की शेल्फ life बढाता है। उच्च तापमान पर caramelize भी करता है और जाहिर है कि मिठास भी बढाता है। परिष्कृत चीनी चाहे वह बीट या गन्ने से बनी हो कुकीज को बेकींग के दौरान फैलने में मदद करती है और कुरकुरा बनाने में भी मदद करती है। इन महत्वपूर्ण कार्यो, की वजह से बेकर्स एक अलग स्वीटनर के साथ इन्हें बदल नहीं सकते। कई व्यंजनो में आप उत्पाद की गुणवत्ता को प्रभावित किए बिना एक तिहाई चीनी को कम कर सकते है।

अन्य प्राकृतिक sweetners

परिशोधित fructose दानेदार चीनी से अधिक मीठी है। इसे आसानी से बेकिंग के दौरान व्यंजनों में प्रतिस्थापित किया जा सकता है, सिर्फ एक तिहाई कम डालकर। कई टेस्टर पाते है कि जो उत्पादन fructose से बनाए जाते है वह मिठे होते है। लेकिन उनका स्वाद साधारण होता है। fructose, sucrose से ज्यादा पानी को आकर्षित करता है। fructose से मिठे उत्पाद में नमी ज्यादा होती है। fructose से बेक किए उत्पादक सफेद चीनी से बने उत्पादकों से अधिक गहरे रंग के होते है।

ब्राऊन चावल माल्ट सिरप मे मालटोस ग्लूकोज और जटिल कार्बोहाइड्रेटस, यह amber-hued सिरप शहद जैसा होता है। पर यह शहद जितना मीठा नहीं होता, इसे दानेदार चीनी के बदले एक कप के बदले एक कप से प्रतिस्थापित कर सकते है, । किन्तु तरल सामग्री को चावल के सिरप के प्रतिकप् को ¼ कप तक कम करना चाहिए, एंजाइम से बना सिरप माल्टड सिरप से बेकड़ उत्पादक का आटा तरल होता ही है।

फलों का गाढा रस –

सेब का रस, संतरे का रस या सफेद अंगुर का रस यह सब चीनी के अच्छे विकल्प है और दिलचस्प जायके के रूप में भी जोड़े जा सकते है। यह रस fructose और ग्लूकोज से बनाए जाते है। इसमें हर एक कप सफेद चीनी के लिए ¾ कप रस का इस्तेमाल किया जाता है और रस की मात्रा को 3 बड़े चम्मच से कम किया जाता है।

Stevia – एक स्वाभाविक मीठी जड़ी बूटी हैं जिसे दक्षिण अमेरिका में सैकड़ों वर्षो से इस्तेमाल किया जा रहा है। तब से इस जड़ी बूटी को और ना ही इसके पाउडर फार्म को FD। द्वारा खाद पदार्थों में डालने के लिए अनुमोदित किया गया है। यह एक आहार अनुपूरक के रूप में ही उपलब्ध हैं।

सभी परिष्कृत शुगर – जैसे ब्राऊन शुगर, सफेद चीनी या कच्ची चीनी जैसे की demerara या turbinado यह सब एक पोषक दृष्टी के समान है। ब्राऊन शुगर से उच्च स्तर का गुड होता है और सफेद चीनी ९९ प्रतिशत शुध्द sucrose और एक सरल तरह का carbohydrate है। अन्य शुगर – जैसे कि शहद दानेदार चीनी की तुलना में जीभ पर ज्यादा स्वाद होता है । इसलिए एक muffins के बैच को मीठा करने के लिए चीनी की तुलना में कम शहद का इस्तेमाल कर सकते है। मेपल सिरप चीनी से कम मीठा होता है पर उसका विषेश स्वाद बेक किए हुए समान और डैस्र्ट में लाजवाब होता है।

प्राकृतिक मिठास

शहद मे कई घटक होते हैं जैसे fructose, glucose, maltose और sucrose यह चीनी के मुकाबले 25% से 50% ज्यादा मीठे होते है, और इसका स्वाद भी विशिष्ट है। इसका जायका और रंग मधुमक्खियों के खानपान पर निर्भर करता है। एक प्रकार का अनाज जो शहद से बनता है। उदाहरण के तौर पर बक पीट शहद

clove शहद से ज्यादा गहरे रंग का और मजबूत होता है। शहद से बने बेकड़ माल नम और घने होते है जो दानेदार चीनी के मुकाबले भुरे हो जाते है। आप एक कप चीनी की जगह पर ¾ कप प्लस एक टेबलस्पून का उपयोंग करे और अन्य तरल पदार्थों को दो टेबलस्पून कम कर दे। जब तक सामग्री मे खट्टी क्रीम या छाछ शामिल ना हो तो उसकी अम्लता को सामन्य करने के लिए एक चुटकी बेकिंग सोड़ा डाल दे।

मेपल सिरप –

चीनी मेपल के पेड़ के सार से बनता है और यह सिरप sucrose और ग्लूकोस का संयोजन है। इस सैप को मीठे, मनोरम सिरप में उबाला जाता है।

ग्रेड A – मेपल सिरप भूर सुनहरे रंग का होता है और इसका स्वाद बहुत ही नाजुक होता है। ग्रेड B – यह गाढ़ा और गहरा होता है जो कि बेकिंग के लिए बेहतर है क्योंकि इसका स्वाद कडक होता है और इसकी लागत भी कम है। हालाकि मेपल सिरप चीनी के मुकाबले सिर्फ 60% मिठा है। सफेद चीनी के हर कप के लिए ¾ कप का उपयोग करे, तरल अवस्था क्षतिपूर्ति के लिए तरल की मात्रा को तीन टेबल स्पून कम कर दे।

मोलासेस –

मोलासेस रिफाइंड चीनी का प्रतिफल हैं, यह sucrose, ग्लुकोस और fructose से बना है और इसमे छोटी मात्रा में विटामिन B, कैल्शियम और iron शामिल है,

मोलासेस़ पके हुए खाद्य पदार्थो को गहरा रंग और कड़क स्वाद प्रदान करता है लेकिन यह चीनी जितना मीठा नहीं होता है। जब चीनी के लिए

मोलासेस़ को प्रतिस्थापित करना हो तो एक कप चीनी के लिए $1^{1}/_{3}$ कप ¼ मोलासेस़ का उपयोग करे और रेसिपी में 5 बड़े चम्मच Liquid की मात्रा को कम कर दे। मोलासेस़ चीनी के मुकाबले में अधिक अग्रीय है। एक कप

मोलासेस़ में ½ चम्मच बेकिंग सोड़ा इस्तेमाल करे। एक रेसिपी में मोलासेस़ के स्थान पर अधिक चीनी का इस्तेमाल न करे।

मकई सिरप –

एक प्रकार का मिठास प्रदान करने का पदार्थ है। खाना पकाने और कैडी बनाने में उपयोगी है क्योंकि अन्य चीनी के विपरीत यह जमता नहीं है। स्टार्च को ग्लूकोस और मालटोस में तोड़ने के लिए मकई को एंजाइम के साथ इस्तेमाल किया जाता है। मकई सिरप चीनी से कम मिठा होता है और गुड़ या शहद की तरह स्वाद नहीं देता। इसे कॉर्न सिरप की जगह पर इस्तेमाल किया जाता है। कुछ शैफ का मानना है कि सिरप की तुलना में चीनी सिरप livelier स्वादिष्ट स्वाद देता है और pecan pie जैसे व्यंजनो में अधिक स्वाद जोड़ता है।

कृत्रिम मिठास

इन मिठासों को FDA द्वारा अनुमोदित किया गया हैं और यह घर के उपयोग के लिए उपलब्ध है। जबकि वे मीठा स्वाद प्रदान करते है पर कृत्रिम मिठास में बाऊनिंग, टेडराइजिंग (नरम बनाना) और नमी को बनाए रखने वाले दानेदार चीनी के गुणों की कमी रहती है। sucralose एक ऐसा स्वीटनर है। जिसे बेकिंग के समय दानेदार एक कप चीनी की जगह पर इसके एक कप का उपयोग कर सकते है।

Saccharine चीनी से २०० से ७०० बार अधिक मीठा हैं। इसे बेकड़ वस्तुओं मे इस्तेमाल किया जा सकता है। जबकि निर्माता रेसिपी में आधी चीनी के बदले में उपयोग करने की सलाह देते है। प्रत्येक ¼ कप के लिए ६ पैकेट (१ ग्राम) के बदले में उपयोग करे।

Aspartame दानेदार चीनी से १६०–२२० बार अधिक मीठी है। यह स्वीटनर गर्मी के प्रति संवेदनशील है। जब इसे गरम किया जाता है तो यह इसकी मिठास कि शक्ति खत्म हो जाती है। जिससे इसे केक और कुकीज मे इस्तेमाल नहीं किया जा सकता है।

Acesulfame potassium चीनी से २०० गुना अधिक मीठी है। यह गर्मी स्थिर है इसलिए इसे बेकिंग और खाना पकाने में इस्तेमाल किया जा सकता है। बेकिंग के समय दानेदार चीनी के साथ Acesulfame potassium का उपयोग किया जाता है। चीनी से बनाया जाता है लेकिन यह चीनी की तरह metabolized नहीं होता है। यह दानेदार चीनी की तुलना में ६०० गुना मीठा है। दानेदार sucratose बेकिंग के लिए इस्तेमाल किया जाता है। sucratose इस्तेमाल करने से यह उत्पाद को सामान्य से अधिक तेजी से सेंकता है। एक कप दानेदार sucratose को एक कप चीनी के स्थान पर इस्तेमाल किया जा सकता है। इस उत्पाद से बनाई गई रेसिपी सामान्य से अधिक तेजीसे बेक होगी। यह देखने के लिए दी गई रेसिपी की जांच दिए गए समय से पहले कर सकते है। ■

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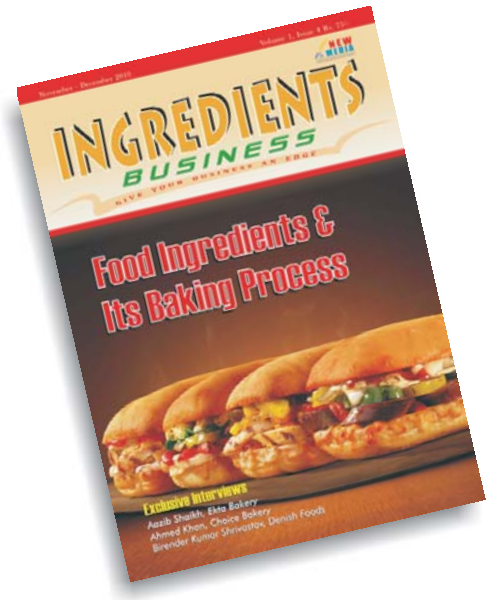

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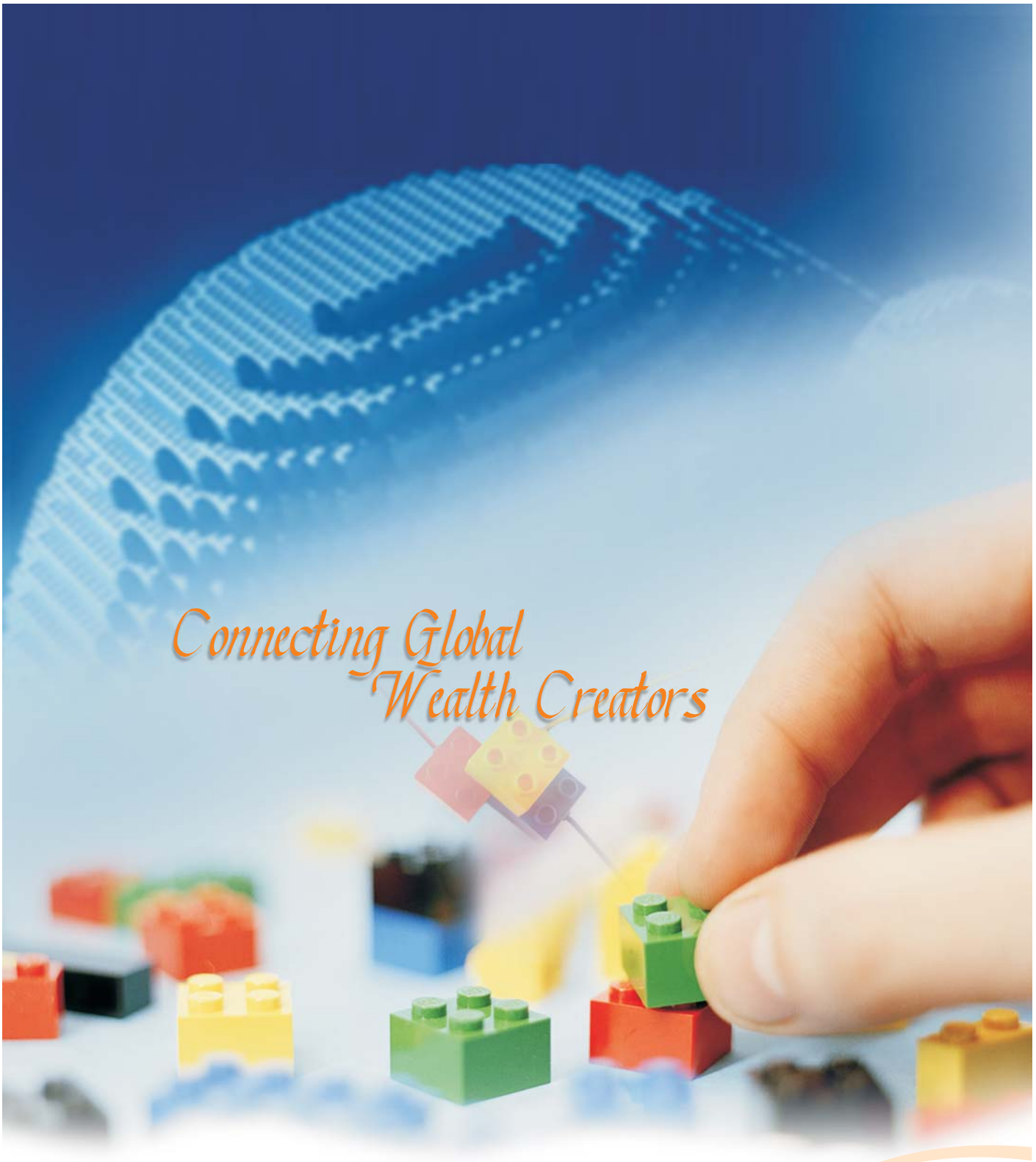

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