

# PFNDAI Bulletin August 2009

## Editorial

We must congratulate the Food Safety & Standards Authority of India headed by a dynamic chairman for formulating the various scientific panels and committees that will take up the regulations process from the scientific point of view. As the government had promised the people that FSSAI will have rules and regulations wherein scientific considerations will be one of the most important aspects and that has been properly demonstrated by the Authority.

There has been some bickering about the constitution of various panels and committees that is most unfortunate. Some people have criticised these panels having scientists from industry. We must realise that these are scientific panels and not committees representing various interest groups. The members appointed on these panels are scientists having qualifications in chemistry, nutrition, biochemistry, food science etc. and have experience in these highly specialised areas such as functional foods, analysis, food additives, contaminants, biological hazards, residues, genetic modification etc.

Prior to appointments, FSSAI had invited publicly applications from scientists with such qualifications and experience who might be interested to work on such panels and after thorough screening they finalised the names of those who were finally appointed. The entire process was already properly laid down by government in the Food Safety & Standards Act 2006. The Food Authority has strictly adhered to these guidelines while inviting, screening and selecting these scientists. Thus there were unfair criticisms that followed the appointments of these scientists on the panels.

We also further would like to remind all those appointed on the various panels and committees that they have been appointed because of their expertise and not because they belonged to any organisation or institution. Their decisions will be decided by science rather than their affiliations. Once we adopt the science based process of rule making, then the outcome becomes more rational and easy to understand. Although there are some finer details may change even in scientific understanding of nutrition and safety, overall the scientific principles do not change.

We also appeal to the Authority to continue this science-based process of rule-making while replacing the older act so that everyone's life will be much simpler and safer. There is the older feeling that everything natural is safe and all artificial and synthetic are hazardous. We must remember that there are many extremely potent poisons that are natural substances and some nutrients if taken in excess can be toxic. Although all the additives may not be safe, proper application of science can determine which ones are safe and at what levels. If this is judiciously applied we will have regulations under Food Safety & Standards Act that would be focussing on safety rather than just develop standards for the sake of having them.

We are having great hopes on the members of these scientific panels, some of them are also associated with us and we expect them to help FSSAI come up with good regulations. Wishing them the very best

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# Nutrition (Fortification) of Food and Drink leading to Added Value Products:

By Dr. S.V. Padgaonkar, Technical Director- Clarico FPC/Spica Tech Specialities

Nutrition of food and drink has been practiced for many years and is required for certain foods to make good or restore specific nutrient deficiencies in our diet. The main purpose of nutrition was to make good the nutrients that had been lost from fresh foods through a variety of causes or lacking in our diet. Nutrients, with identified health benefits, are increasingly being brought to light and as a result are being added to our diet without our always being fully conscious of their benefits.

Nutritional research continues to bring to light new ingredients or nutrients that are low in the diet but of importance, leading consumers to purchase and consume these in the form of dietary supplements in increasing quantities.

The first area of nutrients that were considered for necessary addition to the diet were based on the nutrition through the addition of ascorbic acid or vitamin C to overcome the problem of scurvy to those denied fresh fruits and vegetables. It has to be borne in mind that vitamin C is sensitive to breakdown in the presence of light, heat and oxidation.

Vitamin C is also important in the treatment of many other medical conditions associated with its absence or deficiency in necessary quantities. Fresh fruit and vegetables can be the main source of vitamin C but it is recognized that due to its sensitivity, it often has to be protected or present in significant quantities. Because demand for vitamins exceeded supply of natural material, it was supplemented by materials of synthetic origin. Such deficiencies result from processing, transportation and storage of foods.

**Table 1 & 2** list vitamins, divided into water soluble and oil soluble varieties. The need for these in recommended quantities has led to enforced nutrition in an increasing number of products.

Similarly many minerals, whilst widely available in our basic diet, their availability to the body is often limited by their lack of bioavailability. This makes it necessary to consider supplementation once their significance has been recognised. A list of biologically important minerals divided into major and trace minerals is listed in **Table 3**, benefits arising from mineral adequacy in our diet in **Table 4a** and mineral deficiency symptoms in **Table 4b**.

Minerals in our diet have three principal functions:

- As constituents of bone and teeth including Calcium, Phosphorus and Magnesium and Fluoride in the latter.
- Forming part of bodily fluids and cells particularly as far as Sodium, Potassium, Magnesium and Phosphorus are concerned.
- As adjuncts or co-factors with enzymes and parts of proteins e.g. Haemoglobin, Iron and Phosphorus.

The increasing consumer awareness of the link between nutrition and good health has encouraged the purchase and consumption of ever-increasing levels of dietary supplements, which in the main were made up of vitamins and minerals to bring these up to recommended levels for good health. Most recently, this has led to the search for food and drink with health benefits as a result of nutrition, termed by many as 'functional foods'. Functional ingredients used to produce functional foods are an ever-increasing range of ingredients and tailored products, particularly where these are taken to fulfil specific types of activities e.g. sport.

Today's lifestyle is very different to what it used to be in terms of energy and calorie requirements for day to day activities. We have gone from one extreme of ongoing intense energy requirements, to today being almost wholly sedentary in our day to day activities. Intense energy requirements are now increasingly associated with sporting and leisure activities, where these requirements are either in terms of short bursts or larger duration and has led to the new nutritional science directed at such activities and their specific needs. This has come about through nutritional research into the specific needs associated with particular activities and often results in products which are identified as having added value. Such products are super most in the minds of most food manufacturers and retailers.

Other changes have occurred which are now being considered for treatment via attention to diets. These include increased mental stress, newer health hazards, enhanced lifespan and significant changes in family life with emphasis on single adult households and the different quantities, types and occasions for food ingestion. It should be recognized that with cardiovascular disease (CHD), being the number one health enemy and often arising through inadequate care in the diet, CHD presents the highest risk to health, particularly in India.

A number of terms are associated with food and drink nutrification and have led to some confusion in their application. The term enrichment is used to identify the addition of nutrients beyond the level originally present in basic foods.

Fortification is considered to be that which is added through legally imposed additions and is often used interchangeably with restoration, which considers the addition of nutrients to replace those lost in processing e.g. milling of cereals etc.

Nutrification is associated with the addition of nutrients at such a level as to make a major contribution to the diet and in general is associated with those nutrients considered to be essential in our diet. These embrace a range of vitamins, minerals, amino acids and certain special lipids but generally exclude certain sources of energy and these are considered separately.

The consuming public has become sensitive to the fact that their diet often suffers from nutrient deficiencies of one kind or another and therefore has gone in for an ever-increasing consumption of dietary supplements to make good these suggested deficiencies. These are mainly in the form of mixtures of vitamins and minerals but increasingly also containing further added nutrients in the form of amino acids and other newly –identified ingredients, of which the first group are listed in **Table 5**. A full list of essential and non-essential amino acids is given in **Table 6**.

Others which are increasingly identified as being of benefit in the diet are added in the form of micronutrients, while bearing in mind that the primary intake of nutrients is still via fresh, cooked or processed foods and then supplemented by dietary supplements selected by the consumer. The consumption of dietary supplements has been increasing steadily as they are now more available in many retail outlets.

The significance of amino acids, peptides and proteins as well as carbohydrates in our diet, has been recognized particularly to compensate for increasing energy requirements of which sporting activities have been positively identified. But increasingly with energising supplements coming to the fore as a means said to energise life in general.

Not to be left out of the list of supplementary nutrients are, of course, dietary fibres, which have a long-standing recognition as important ingredients/ nutrients. These are ever in short supply in our diet, due to the refined nature of many of the materials used in food formulations. Now, there are numerous sources of both soluble and insoluble dietary fibre, making it as usual difficult to select appropriate fibres for different applications, as they do tend to be of specific viability.

The consumption of dietary supplements has reached a level where it is now beginning to be considered that a risk factor is appearing due to over fortification i.e. the consumption of nutrients at such levels that they are becoming a potential hazard to good health, rather than assisting the development of good health.

**Table 7** lists some of the speciality nutrients that are appearing in the diet of products tailored for those engaged in specific types of activities.

However, the level of nutrients, being present in our diet is not necessarily a true reflection of their significance. We have to consider that they are either available or non-available, based on their bioavailability. Those that are not bioavailable cannot be absorbed by the body unless they are in the correct state or ingested in the presence of specific enhancing agents. Thus, iron intake is enhanced by the presence of vitamin C, and Calcium by the presence of vitamin D.

The latest recommendations for food supplementation identifies the importance of the level of antioxidants in our diet, preferably natural antioxidants. Those most frequently mentioned are vitamins C, D, E and Beta Carotene targeted to combat the harmful nature of excess free radicals in the body.

There is certainly no end in sight for the increasing significance and consumption of dietary supplements, which are consumed either separately or through nutrification of regular foods and drinks making up our daily diet. As will have become obvious, the nutrification of foods and drinks has reached a point of significance, which cannot be ignored. The nutrification is often essential to bring the dietary value of foods to a point where they do provide health benefits, as well as more recently specific health benefits, some of which have yet to be clinically proven. The wide and ready availability of dietary supplements is of importance and potential concern. It is recognised that no two people require the same amounts of nutrients, the requirements being based not only on their background in terms of culture, but also health, age, sex and particularly the ensuing activity of the person.

The addition of nutrients to our food is increasingly important and drawing more attention as we eat more and more processed foods as against fresh foods. This despite the recommendations and inducement to reverse this trend, requiring the implementation of foods to make good an increasing awareness of the deficiency in our diet of special nutrients such as vitamins A, B1, B2, Niacin, C, D, E and possibly B12.

What is obvious is that increasing attention has to be paid to the nutrification of our foods to optimise their benefit to us. An ongoing problem is the method by which the ingestion of nutrients can be evaluated accurately and quickly so that balancing of any deviations from optimum can be rectified. However, this seems to be a long way off for many reasons.

**Table 1: VITAMINS**

Vitamin	Deficiency Symptoms
<b>Fat soluble</b>	
Vit A—Retinol ( Axerophthol)	Light perception, Night blindness
Vit D2— Ergocalciferol	Rickets, Osteomalacia
Vit D3—Cholecalciferol	Bone Fracture
Vit E—Alpha, Beta & Gamma Tocopherols	Oxidation of fats and membrane lipids
Vit K1— Phylloquinone, Phytomenadione	Haemorrhages
Vit K2 —Farnoquinone ,	

Menaquinone	
Vit K3—Menaphthone	
<b>Water Soluble</b>	
Vit B1—Thiamine (Aneurine)	Beri-Beri, swelling & Palpitations
Vit B2—Riboflavin ( Lactoflavin)	Tiredness, mouth and tongue lesions
Vit B6 – Pyridoxol, Pyridoxine, Pyridoxamine	Atrophy of organs, lack of growth, widespread disruption of metabolism
Vit B12—Cyanocobalamine, cobalamine	Pernicious anaemia, megaloblastic anaemia and neurological damage
Niacin—Nicotinic acid (Vitamin PP)	Pellagra, skin lesions
Niacinamide—Nicotinamide (Vitamin PP)	
Pantothenic acid	Widespread disruption of metabolism
Folic acid—Fulacin (vitamin M)	Metabolic anaemia
Biotin—Vitamin H	Acidosis, skin rash, Neurological problems, anorexia, immunodeficiency
Vit C – Ascorbic acid	Scurvy, defence against infections, gum bleeding

**Table 2-Products Fortified with Added Nutrients**

Cereals / Breakfast cereals	B-Vitamins & Iron
Instant Potatoes	Vitamin C
Margarine	Vitamin D
Textured vegetable proteins or meat replacers	Vitamin B <sub>12</sub> , Iron , Thiamine, Riboflavin, Zinc
Flour	Iron & Calcium
Salt	Iodine
Skimmed milk	
Dietary fibre rich Foods	
Low Calorie Foods	

**Table 3- Biologically Important Minerals**

Major Minerals	Trace Minerals
Calcium	Iron
Phosphorus	Iodine
Sodium	Fluoride
Potassium	Zinc
Magnesium	Copper
Sulphur	Selenium
Chlorine	Chromium
	Manganese
	Cobalt
	Molybdenum
	Vanadium

**Table 4a- Benefits arising from Mineral Adequacy & Mineral Deficiency Symptoms**

- Promoting growth and maintaining bodily health
- Maintaining physiological processes
- Acting as a catalyst in nerve response, muscle contraction and metabolism of food nutrients
- Regulating electrolytic balance and hormonal production

**Table 4b- Examples of Mineral Deficiency Symptoms**

Iron	-	Anaemia
Calcium	-	Osteoporosis
Iodine	-	Goitre
Magnesium	-	Lessening of nervous system activity and tetany
Zinc	-	Abnormal fatigue

**Table 5- Newer Key Ingredients**

**Amino acids:** Glutamine, Leucine, Taurine

**Peptides:** Glutamine Peptide, Glutathione (a biologically active tripeptide made up of L-glutamic acid/L-cysteine / Glycine, protects cells against damage by toxic compounds etc.)

**Hydrolysed proteins:** Peptigenes-casein hydrolysates, Hyprol 4407, Protein hydrolysates, Hydrolysed Milk Proteins

**Miscellaneous:** L-carnitine/ L-carnitine tartarate, Guarana- a dried paste made from the seeds of a South American plant rich in caffeine, Lactoferrin, Lactoperoxidase, Beta Carotene (Pro Vitamin A), Caffeine, Vegetable protein concentrates, Colanut extract, Other material such as octacosanol being of vegetable origin

**Table 6- Amino Acids**

<u>Essential Amino Acids</u>	<u>Non –Essential Amino Acids</u>
L-Valine (BCAA)	Glycine
L-Leucine(BCAA)	L-Alanine
L-Isoleucine(BCAA)	L-Serine
L-Threonine	L-Cysteine
L-Methionine	L-Cystine
L-Lysine	L-Aspartic Acid
L-Phenylalanine	L-Asparagine
L-Tryptophan	*L-Glutamic Acid
	*L-Glutamine
BCAA-Branched Chain Amino Acids	L-Arginine
	L-Tyrosine
	L-Histidine
	L-Proline
	*Taurine
	*conditional Ess. Amino Acids

**Table 7- Nutrients of Major Significance**

Calcium
Iron
Iodine
Vitamin C, D, E
Beta Carotene
Hydrolysed Proteins

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# **Food Law: Expectations of Reform**

**By Dr. JI Lewis,  
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Chairman, Regulatory Affairs Committee, PFNDAI**

Whenever a petition is made for amendment, inclusion or removal of provisions in the rules, an international tour is launched of what other countries practice and the most restrictive one becomes the adoption agenda. Industry of course seeks the most liberal – nowhere is Indian reality or evidential support a basis of rulemaking.

Another practice is the misplaced interpretations of ‘harmonization with Codex equally propositioned by government and industry. It is not so much the reference to Codex but that it predicates and preempts evaluation of evidential support or data that should be the basis of rulemaking. It’s like saying ‘we have made up our mind (on Codex), don’t confuse us with evidence’.

A case in point is a quid labeling clause in GSR 664 – *‘is not within the name of the food, but, is essential to characterize the food and is expected to be present in the food by consumers, if the omission of the quantitative ingredient declaration will mislead or deceive the consumer.* What is the clear point of transgression that this clause invokes – at the moment it is speculative, variably interpreted and an Indian example elusive. This mirrors another face of rulemaking viz. ‘Let’s pass the sentence and then fit the crime’.

Regulators must work harder than they do currently. More importantly the Food Authority must ensure they work in accordance with the statutes – to do that a set of procedures for rulemaking should be published. For its actions to be valid, the Authority and all its constituent bodies must satisfy the substantive conditions – its actions must be reasonable, factually supported, subjected to regulatory options so that it is not ‘arbitrary or capricious’. The Food Authority must discourage poorly supported actions presented to it by the Scientific Panels or Scientific Committee.

Generally regulators put forth memoranda, guidance, manuals, policy statements, staff instructions, and similar informal documents that relate to interpretation of the statutes. Even though these documents do not have legally binding effect, they have practical binding effect to the extent that such documents merely interpret and are called interpretive rules. Rulemaking that complies with procedural mandates provides for transparent and predictive outcomes. Rulemaking done otherwise can be autocratic, whimsical and discourage due diligence.

Expectations of reform are for basic measures in discontinuing practices prevailing under PFA 1954 and provision for procedures that bring in transparency and predictability. Some of these are discussed.

## **Constituent Bodies:**

The Scientific Panels and Scientific Committee have been appointed under the Act. In a significant departure from PFA 1954, the members have been selected and not nominated. They are placed in the various Panels for their scientific expertise and not from associative affiliations or interests; industry chambers or consumer groups are invitees to the Panels. Officials of the Food Authority are only required to provide administrative, technical or scientific support to enable the Panel to carry out its functions. The Act requires only Panel members engage in functional work and none others and that they do so by risk assessment and for providing scientific opinions.

In sharp contrast with the deliberations of the erstwhile Subcommittees, the Act separates science from persuasions or advocacies that may bring on board conflicts of interest and puts science firmly as the basis of rulemaking. Removing such factors enables the members to function in an open and independent manner.

FSSA 2006 is expected to reform rulemaking procedures introducing significant departures from PFA 1954:

- Members of the Scientific Panel are not members of the Food Authority. Unlike the previous system often the same members nominated to Subcommittees were also members of CCFS. This provides for independence and separation of functional expertise.
- The Food Authority will engage in risk management – separated from risk assessment. The functional separations is clearly defined – vertical expertise of risk assessment provided by the Scientific Panels and Committee and the broad expertise of different domains such as commerce, consumer affairs, food processing etc. Regulatory options are determined here and not before.

While defining functional domains as above, the Act through procedural statutes seeks to ensure that the process of rulemaking is based on certain principles – one of which is transparency and public participation. Regulatory elaborations created by the Authority to administer the Act must find its reasons in the statutes - to proceed otherwise would be to ignore the statutes and the intent of Parliament.

### **Transparency**

To many the meaning of transparency is confined to the publication of the draft rule for public comment or that industry and consumer groups have been consulted at several stages leading to the draft.

Transparency is not an end in itself or a specific activity - it is a process. The rulemaking process needs to lay down guidelines that will drive this process. Transparency and public participation are to be seen as tools that enhance regulatory quality an achievement of legitimate goals. Public participation promotes legitimacy by creating a sense of fairness in rulemaking.

Basically transparency is the availability and ease of access by the public to information held by government that forms the basis of decision making. Transparency means that regulatory decisions are clearly articulated, the rationales and evidence behind these decisions documented, explained and publicly available. While this is the intent of legislation what are the guidelines that need to be developed that will guide the process of rulemaking. A review will elaborate this further.

1. Most often procedures are neither transparent nor participatory especially at the earliest stages of rulemaking— in fact much of what will become the final rule gets developed [if not settled] and innocuously presented as notice of agenda well before the appropriate committee debates it. This practice conspicuously dictates or directs the deliberations and outcomes and presents a partisan view of the regulator. This practice is not in keeping with the spirit of the Act. The development of agenda must be in neutral gear so as not to influence the constituent bodies through which the notice will flow prior to development of the rule.
2. When the rule becomes the agenda item as in the case of quid labeling members engage in interpretation or application or implication of the rule rather than in engaging on risk analysis or scientific evaluation. Outputs of such discussions are typically editorial or accompanied with a list of provisos and are never the output of scientific deliberations or evidential support.
3. To enable Scientific Panels to engage in risk assessment in an independent and unbiased manner the agenda provided should be a “statement of the hazard or risk or the unfair trade practice prevalent. It should be precise and only elaborate the problem or hazard. It is important that the Food Authority by regulations specify the manner in which tasks and request for scientific opinions are assigned.
4. To focus the deliberations of the Scientific Panels the Food Authority through its office need to provide the Panels with dockets of data or evidential analysis of unsafe products or failures in consumer health or such inputs required by each agenda item. It should not preempt or prejudice the outcome of the discussions by any reference to rules prevalent in other countries or codex. The task of the Scientific Panel or Committee is that of validating or negating the potential risk with proper scientific evaluations. For example the labeling

provision to declare sugar purported from high consumption through prepackaged foods would negate such a rule as the greatest consumption is from foods not labeled. The task outputs are typically expressed as 'scientific opinions'.

## **Public Participation**

1. Another concern is the way the comment period operates. Reality or perception is that it is a one way communication – it does not seriously discuss concerns or unanticipated inputs and is rather a formality than a genuine step of addressing public comment. Often regulator argument is that administrative rules limit the changes that can be made to the draft and insist on proceeding even if there is a major infirmity. A case in point is the quid labeling clauses [GSR 491 and GSR 664] where rule modifications in reality arose from Codex changes and not domestic compulsions. If the guideline above prevailed of evaluating the risk first and then making the rule, changes at this stage would reduce such contradictions and wastage of regulatory time.
2. There are further ways to strengthen regulatory decision making especially when it becomes extremely technical or complex and comments filed in the initial round of commenting may raise new or unanticipated issues or significantly conflicting data. In these cases it could be useful to provide for two rounds of commenting occasions. Persons that submit comments during the first round would be eligible to respond to opposing comments or to agency queries in the second round. Such a two-round approach may also provide an opportunity of opposing unsupported claims or to file last-minute commentary. Such a provision can only improve regulatory quality and compliance.
3. Procedural obligations should require that enough time be given to the comment period and each public comment is evaluated, included or discarded providing the rationale behind such action. The regulator requires time to consult, clarify and then respond to the various comments received. All such rationale must be recorded which then becomes the docket of support or rejection of a regulatory application. Often the courts or a challenge under WTO will require to reference data that supported or rejected the enactment of a regulation.
4. A significant aspect of public participation and is the availability and ease of accessing information held by government as well as the ability to observe or become informed about decision making by regulatory staff. Transparency also means that agency decisions are clearly articulated, rationales for these decisions are fully explained, and the evidence on which they are based is publicly accessible. A website posting marks an important advancement in rulemaking transparency.
5. To further provide for openness and transparency many regulatory procedures allow observers or invitees or others who apply to make a presentation or provide significant information on the subject of discussion. FSSA 2006 provides for such access to Scientific Panels and Scientific Committee. However a structure for access to participation needs to be put in place otherwise impediments may defeat the process envisioned in the Act.
6. The process of transparency should necessarily prescribe the regulatory path and time for applications to complete procedures for amendments or elaborations of existing and new provisions. This may be based on the complexity of risk assessment and would logically be less for amendments or elaborations of existing provisions compared with new introductions. Process time can only be predicted if the regulatory track is transparent and understood by all stakeholders.
7. The Act seeks to uphold consumer safety and health while providing for fair business practices. Regulatory impact analysis is a tool to ensure that regulatory outputs deliver the outcomes it promises while making the rule - otherwise regulations serve no purpose than of imposed burdens and unjustified costs. Such an

expectation of the rulemaking procedure will motivate all actors in the process towards diligent application of modern decision making practices. The US, EU, Australia New Zealand are countries that use the tool effectively to evaluate outcomes of regulations against the intended object and purpose, such as consumer choice, safety and health.

Openness, transparency and public participation are not merely about rulemaking but rather one of strategic departure from infirmities of PFA 1954. The latter has served a useful purpose of a previous period like many other regulators worldwide engaged more in setting standards around product identity rather than safety. Many countries have reorganized food laws with safety being of paramount importance particularly in context of the global marketplace and recognition of technical barriers to trade.

Rulemaking procedure is a policy reform long overdue and FSSA 2006 provides the statutory thrust to achieving transparency and providing meaningful opportunities for public participation. It is well understood that this is not entirely a cost-free exercise, as a consequence of allotting public resources or organizing public meetings or consultations. It also lengthens the time of the regulatory process to reach a decision. However this is a far better choice than for the regulator to make expedient rules, or erroneous decisions or rules that are hard to comply or unlikely to bring the expected consumer benefits for which they are made.



# Research in Nutrition & Health

## Dealing With High-blood Pressure? Eat More Melons

Summer is the time to chill out with cool summer fruits. So, why not lower your blood pressure at the same time? Nutrition experts at UT Southwestern Medical Center say there's no better way to lower your blood pressure than by indulging in some of the season's potassium-rich fruit and vegetables.

"Melons like cantaloupe and watermelon are particularly high in potassium," says Lona Sandon, assistant professor of clinical nutrition at UT Southwestern and spokesperson for the American Dietetic Association. "One fourth a cantaloupe contains 800 to 900 milligrams of potassium, roughly 20 percent of the recommended daily value." Two cups of watermelon contains nearly 10 percent of the daily recommended value.

Ms. Sandon said that dried apricots, avocados, figs, kiwi, oranges, raisins, dates, beans, potatoes, tomatoes and even grapefruit are other good sources of potassium. The U.S. Department of Agriculture recommends that most adults get 4,044 milligrams of potassium from food and beverages each day.

**From: Medical News Today 29 Aug 2009**

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## Healthy fat link to bowel disease

A high intake of polyunsaturated fat in the diet, while good for the heart, may lead to inflammatory bowel disease, say researchers. Experts believe a high intake of linoleic acid, found in foods like "healthy" margarines, may be implicated in a third of ulcerative colitis cases. The researchers base their findings, due to be published in *Gut*, on food diaries from more than 200,000 people. If the link proves to be causal, some people might want to modify their diet.

The researchers also found that a diet rich in another type of fat, omega 3 fatty acid found in oily fish such as salmon and herring, reduced the likelihood of developing ulcerative colitis by 77%. Linoleic acid is a naturally occurring essential fatty acid, present in a variety of foods, including the oils of seeds and nuts, such as sunflower, safflower, soya, corn seeds or walnut oils.

The multinational team working on the EPIC (European Prospective Investigation into Cancer and Nutrition) study say there is a plausible biological mechanism that could explain why linoleic acid is linked with this bowel condition.

### Cell membranes

Once in the body, linoleic acid is converted to arachidonic acid, which is a component of the cell membranes in the bowel. Arachidonic acid can then be converted into various inflammatory chemicals, high levels of which have been found in the bowel tissue of patients with ulcerative colitis. In all, 126 of the people in the study developed ulcerative colitis after an average period of four years.

After adjusting for other factors likely to influence the results, including smoking, age, total energy intake, and use of aspirin, those whose diets included the most linoleic acid were more than twice as likely to develop the condition as those whose diets contained the least. Lead researcher Dr Andrew Hart of the University of East Anglia, Norwich, said: "There are no dietary modifications of benefit in patients with ulcerative colitis, although, based on this study's findings, a diet low in linoleic acid may merit investigation."

In the UK, people consume on average about 10g per day of linoleic acid, found in around nine level teaspoons of polyunsaturated margarine or three teaspoons of sunflower oil. In the study, the people who consumed the most linoleic acid had a daily intake three times this or more.

### **Biologically plausible**

Dr Anton Emmanuel, medical director of the digestive disorders charity Core, stressed that the study did not prove that linoleic acid caused bowel disorders, and warned that dietary diaries could be unreliable. However, he said: "Nevertheless there is good biological plausibility of why linoleic acid can cause inflammation, and certainly Western diets are often excessive in this kind of fat. The omega 3 fish oils counteract the harmful effects of linoleic acid it would be helpful to see whether diets high in fish oils reduce colitis. Linoleic acid may have small part to play in some patients, but factors such as smoking, bacteria and stress are likely to be at least as important."

Professor Jon Rhodes, of the British Society of Gastroenterology, said the study was interesting, but also stressed it did not prove cause and effect - further tightly controlled studies would be needed to do that. Dr Elisabeth Weichselbaum, of the British Nutrition Foundation, said the study was interesting. But added: "The results need to be interpreted with caution. People who have very high intakes of omega-6 fats are likely to have a generally different diet from those with low intakes. Therefore, it may as well be possible that there are other factors that could have an effect."

**From BBC NEWS: 2009/07/24**

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### **UCLA Scientists Uncovered the Immune System's Role in Bone Loss**

Got high cholesterol? You might want to consider a bone density test. A new UCLA study sheds light on the link between high cholesterol and osteoporosis and identifies a new way that the body's immune cells play a role in bone loss. Published Aug. 20 in the journal *Clinical Immunology*, the research could lead to new immune-based approaches for treating osteoporosis. Affecting 10 million Americans, the disease causes fragile bones and increases the risk of fractures, resulting in lost independence and mobility.

Scientists have long recognized the relationship between high cholesterol and osteoporosis, but pinpointing the exact mechanism connecting the two has proved elusive. "We've known that osteoporosis patients have higher cholesterol levels, more severe clogging of the heart arteries and increased risk of stroke. We also knew that drugs that lower cholesterol reduce bone fractures, too," explained Rita Effros, professor of pathology at the David Geffen School of Medicine at UCLA. "What we didn't understand was why."

Effros suspected a clue to the mystery involved oxidation -- cell and tissue damage resulting from exposure of the fatty acids in cholesterol to molecules known as free radicals.

In the study, UCLA researchers focused on low-density lipoprotein (LDL), the so-called "bad" cholesterol. They examined how high levels of oxidized LDL affect bone and whether a type of immune cell called a T cell plays a role in the process.

Using blood samples from healthy human volunteers, the team isolated the participants' T cells and cultured them in a dish. Half of the T cells were combined with normal LDL - the rest was combined with oxidized LDL. The scientists stimulated half of the T cells to mimic an immune response and left the other half alone. "Lo and behold, both the resting and the activated T cells started churning out a chemical that stimulates cells

whose sole purpose is to destroy bone," said Effros. Called RANKL, the chemical is involved in immune response and bone physiology.

To investigate further how the immune system participates in bone loss, the scientists repeated the experiment in a mouse model. Half the animals were fed a high-fat diet starting at one month of age, while the control group ate a normal diet. At 11 months, the mice on the high-fat diet showed elevated cholesterol and thinner bones. When Effros and her colleagues tested the T cells of the mice on the high-fat diet, they discovered that the cells acted differently than those of the mice on the normal diet.

The T cells switched on the gene that produces RANKL. The chemical also appeared in the animals' bloodstream, suggesting that the cellular activity contributed to their bone loss. "It's normal for our T cells to produce small amounts of RANKL during an immune response," explained Effros. "But when RANKL is manufactured for long periods or at the wrong time, it results in excessive bone damage."

"That's exactly what happened to the mice on the high-fat diet," she said. "The animals' high cholesterol increased their levels of oxidized LDL, which told the T cells to keep generating RANKL. This discovery revealed to us how the immune system might play an entirely new role in bone loss." The next step will be exploring methods to control T cell response to oxidized LDL in an effort to develop immune-based approaches to prevent or slow bone loss, Effros says.

**Source: Nutrition Horizon 27 Aug 2009**

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## **Whey peptide may improve vascular function**

As the baby boomers age, physicians expect the number of vascular disease cases to rise dramatically. This is largely due to the fact that as one ages arteries tend to thicken, stiffen and narrow. When blood flow is restricted, vascular diseases can result. A new peptide from Glanbia Nutritionals may improve vascular elasticity, thus helping to prevent the onset of vascular disease, according to a recently published human clinical study in the July issue of *Nutrition Journal*.

A research team led by Dr. Jeff Volek of The Human Performance Laboratory at The University of Connecticut, conducted a double-blind, placebo-controlled study on the effects of NOP-47, short for Nitric Oxide Peptide-47, on vascular function in twenty healthy men and women.

A concentrated form of NOP-47 was tested by Volek's laboratory group. To assess vascular function in response to ingestion of NOP-47, the researchers used ultrasound to measure brachial artery dilation in the arm and plethysmography to assess capillary blood flow in the forearm. Increased dilation during the ultrasound test is an index of greater nitric oxide availability and improved vascular function. Ingestion of NOP-47 resulted in a 28 percent increase in artery dilation measured by ultrasound and also significantly increased peak forearm blood flow. Blood chemistries also indicated that NOP-47 increased nitric oxide levels compared to the placebo.

"This is the first time a natural peptide has been shown to positively impact vascular function using these techniques," stated Dr. Volek. "Glanbia's whey peptide could be of significant value in maintaining nitric oxide levels and vascular function. Generally, impaired vascular function is found in individuals with obesity, hypertension, abnormal cholesterol levels, erectile dysfunction, diabetes, heart failure, aging, and other chronic ailments. Maintaining a healthy endothelium is critical for overall health and maximizing sports performance.

Future experiments on the impact of this peptide on individuals with an impaired vascular endothelium would be particularly relevant to address the potential of the peptide for prophylactic or therapeutic applications."

Study co-author Dr. Richard Seip of Hartford Hospital commented, "With such significant results in younger, healthy individuals, I would suggest that there is a likelihood that older individuals would also benefit from the effects of this peptide in terms of maintaining vascular health."

"For the past decade, Glanbia has been developing expertise in enriching and purifying naturally occurring proteins and peptides from milk that have physiological benefits," stated Dr. Loren Ward, Director of R&D for Glanbia. "The new patent-pending NOP-47 peptide is based on a core scientific platform of bioactive peptide technology which has been developed over several years. NOP-47 is proprietary to Glanbia and offers a clinically substantiated, natural ingredient for products targeting circulatory health and sports nutrition."

Glanbia owns the Actinos® brand name for NO peptides used in sports nutrition and this research will support future developments of NO peptides for applications in this sector. The study was conducted by independent researchers and was funded by Glanbia Nutritionals, which also supplied the test supplements used in the study.

**From: Report by Richard Clarke Food Processing.Com August 11, 2009**

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## **Large Epidemiologic Study Supports Brain Power Of Fish In Older People**

Experts estimate that over 24 million people worldwide suffer from dementia, and many of these people live in low- and middle-income countries. Recently, there has been growing interest in whether dietary factors, particularly oily fish and meat, might influence the onset and/or severity of dementia. Oily fish are rich in omega-3 long-chain polyunsaturated fatty acids, which some studies suggest are positively related to cognitive function in later life.

Conversely, there is a suggestion from some studies that increased meat consumption may be related to cognitive decline. To examine this, a group of international researchers studied older people in 7 middle- to low-income countries. You can read the results of their study in the August 2009 issue of the American Journal of Clinical Nutrition. Data from 14,960 participants ( $\geq 65$  y of age) living in China, India, Cuba, the Dominican Republic, Venezuela, Mexico, and Peru were analyzed. Dietary habits were assessed by using standard, culturally appropriate face-to-face interviews, and dementia was diagnosed by using validated culturally and educationally fair criteria.

In each of the study countries, except India, there was an inverse association between fish consumption and dementia prevalence. These data extend to low- and middle-income countries previous conclusions from industrialized countries that increased fish consumption is associated with lower dementia prevalence in later life. The authors propose that this relation is not due to poor overall nutritional status in those with dementia, because meat consumption tended to be higher in this group. The relation between meat consumption and dementia remains unclear.

**From: Science Daily (July 18, 2009)**

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## What's to remember about the glycaemic index?

Missing breakfast is more prevalent among adolescents and young adults than among other age groups. This is despite numerous studies emphasizing the importance of breakfast consumption for cognitive performance, especially attention and episodic memory performance.

Cognitive performance, such as a decline in attention, has been shown to improve after consumption of breakfast cereal meals or a glucose-laden drink. However, fewer studies have examined the impact of breakfast cereal meals differing in glycaemic index (GI) on cognitive function. High GI foods cause a sharp increase in blood glucose levels followed by a sharp decline, while low GI foods result in a smaller but more prolonged rise in blood glucose levels.

Various findings have suggested that cognitive performance is improved subsequent to ingestion of a low GI breakfast meal, compared with a high GI meal, in children and adolescents. This is thought to be related to the prolonged availability of glucose following ingestion of low GI foods. Although glucose administration has also been associated with cognitive enhancement in healthy young adults, this has been most reliably shown under increased cognitive demand.

A study by Smith and Foster<sup>1</sup> investigated the effects of two breakfast cereals, differing in GI value, on a verbal episodic memory task in young adolescents. In the test, the memory materials were encoded under conditions of divided attention. Analysis of remembering/forgetting indices showed that the high GI breakfast group remembered significantly more items than the low GI group. This may be related to the more rapid supply of glucose to the bloodstream, subsequent to consumption of a high GI meal. This more rapid delivery of glucose may be necessary to fuel the brain optimally under dual task conditions.

**From: Food Science Central FSTA Reports 11 May 2009**

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## Moderate alcohol intake reduces the risk of dementia in seniors

A glass of wine here, a nightcap there - new research out of Wake Forest University School of Medicine suggests that moderate alcohol intake offers long-term cognitive protection and reduces the risk of dementia in older adults. The study is being presented at the Alzheimer's Association 2009 International Conference on Alzheimer's Disease (ICAD), in Vienna on July 13.

While previous studies have shown that moderate alcohol intake, particularly wine, is linked with lower risk of heart attacks and dementia, most of the studies have been done in middle-aged people, and it has remained unclear if the benefits of alcohol also apply to older adults in general or to older adults who might already have some mild memory problems. This is the largest, longest U.S. study to look at the effects of regular alcohol intake on dementia in seniors, both with and without memory problems.

"As of yet, we still have no cure for Alzheimer's disease and other dementias, so it is important to look for things that might help people prevent the disease," said Kaycee Sink, M.D., M.A.S (Masters of Advanced Studies in clinical research), a geriatrician and senior author of the paper. Moderate alcohol intake has been linked to lower risk of heart attacks, stroke, dementia, and death in middle-aged adults, but there is still controversy about alcohol intake in older adults."

For the study, researchers began by examining and interviewing 3,069 individuals, 75 years or older and most without any memory or thinking problems, about their drinking habits. Participants were asked about beer, wine, and liquor. The investigators then categorized the individuals as abstainers (non-drinkers), light drinkers

(one to seven drinks per week), moderate drinkers (eight to 14 drinks per week), or heavy drinkers (more than 14 drinks per week). All types of alcohol were included. The study subjects were then examined and interviewed every six months for six years to determine changes in their memory or thinking abilities and to monitor who developed dementia.

Researchers found that individuals who had no cognitive impairment at the start of the study and drank eight to 14 alcoholic beverages per week, or one to two per day, experienced an average 37 percent reduction in risk of developing dementia compared to individuals who did not drink at all and were classified as abstainers. The type of alcohol consumed did not matter.

For older adults who started the study with mild cognitive impairment, however, consumption of alcohol, at any amount, was associated with faster rates of cognitive decline. In addition, those who were classified in the heavy drinker category, consuming more than 14 drinks per week, were almost twice as likely to develop dementia during the study compared to non-drinkers with mild cognitive impairment. "We were excited to see that even in older adults, moderate alcohol intake decreases the risk of dementia," Sink said. "It is important to note, however, that our study found a significantly higher risk of dementia for heavy drinkers who started the study with mild cognitive impairment."

The results are consistent with previous studies of middle-aged adults that suggest mild to moderate alcohol intake may reduce the risk of dementia, except in the case of individuals who already have mild to moderate cognitive impairment. The researchers' findings support current recommendations not to exceed one drink per day for women and two for men.

It is unclear from this study whether an abstainer who begins drinking moderately in his/her 70s will experience the same benefit or if the benefit is associated with a long pattern of moderate alcohol intake that continues on into old age. "Our results suggest that older adults who are normal cognitively and drink moderately do not need to change their drinking behavior," Sink said. "If you have mild cognitive impairment however, it might benefit you to restrict your drinking and certainly not exceed one drink a day for women and two drinks a day for men.

"The participants in this study self-reported their alcohol intake at the start, but it is unusual for people to start drinking in their 70s, so we assume that the habits they reported at the start of the study reflect stable drinking habits," Sink added. "Without scientific data showing that it is beneficial, I wouldn't recommend that non-drinkers start drinking in their 70s. We are starting to make progress in understanding how to prevent and treat Alzheimer's and other dementias," she said. "It is a very exciting time to be involved in geriatrics research."

**From: Medical News Today 14. July 2009**

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## **Black Tea May Fight Diabetes**

Long known for its antioxidants, immune boosting and, most recently, antihypertensive properties, black tea could have another health benefit. Black tea may be used to control diabetes, according to a study in the *Journal of Food Science*, published by the Institute of Food Technologists.

Next to water, tea is the second most consumed beverage in the world. Researchers from the Tianjin Key Laboratory in China studied the polysaccharide levels of green, oolong and black teas and whether they could be used to treat diabetes. Polysaccharides, a type of carbohydrate that includes starch and cellulose, may benefit people with diabetes because they help retard absorption of glucose.

The researchers found that of the three teas, the polysaccharides in black tea had the most glucose-inhibiting properties. The black tea polysaccharides also showed the highest scavenging effect on free radicals, which are involved in the onset of diseases such as cancer and rheumatoid arthritis. "Many efforts have been made to search for effective glucose inhibitors from natural materials," says lead researcher Haixia Chen. "There is a potential for exploitation of black tea polysaccharide in managing diabetes."

**Science Daily (Aug. 13, 2009)**

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## **Probiotics Formula Reduces Cold and Flu Symptoms in Children**

The market for natural immune-boosting products has gained more attention since FDA has issued warnings about over-the-counter cough and cold medications for children under the age of four.

HOWARU Protect, a probiotic formulation from Danisco, provides a safe and effective means to enhance the body's natural defences and has been clinically shown to reduce the incidence and severity of cold and flu symptoms in children.

A recent study entitled "Probiotic Effects on Cold and Influenza-Like Symptom Incidence and Duration in Children," sponsored by Danisco and published by the American Academy of Pediatrics, demonstrates the benefits of the HOWARU Protect probiotic combination of *Lactobacillus acidophilus* NCFM and *Bifidobacterium lactis* Bi-07 in maintaining immune health in children.

For 6 months, 326 children, aged 3 to 5, were given supplements twice a day. One group received a single strain of *Lactobacillus acidophilus* NCFM, one group received a combination of *Lactobacillus acidophilus* NCFM and *Bifidobacterium lactis* Bi-07 and a third group received a placebo.

When compared to placebo, the groups that received the single and combination probiotic supplements reduced their fever incidence by 53% and 73% respectively. Their coughing was reduced by about 41% and 62% and their runny noses were lessened by 28% and 59%. The duration and severity of cold and flu symptoms were also significantly reduced in the children receiving the probiotics. Because of their enhanced natural defences, these children had less need for prescription antibiotics and missed fewer days of childcare.

**From: Nutraceuticals World Breaking News 2009-07-29**

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## **Researchers Find that Eating High Levels of Fructose Impairs Memory in Rats**

Amy Ross, a graduate student in the lab of Marise Parent, associate professor at Georgia State's Neuroscience Institute and Department of Psychology, fed a group of Sprague-Dawley rats a diet where fructose represented 60 percent of calories ingested during the day. She placed the rats in a pool of water to test their ability to learn to find a submerged platform, which allowed them to get out of the water. She then returned them to the pool two days later with no platform present to see if the rats could remember to swim to the platform's location. "What we discovered is that the fructose diet doesn't affect their ability to learn," Parent said. "But they can't seem to remember as well where the platform was when you take it away. They swam more randomly than rats fed a control diet."

Fructose, unlike another sugar, glucose, is processed almost solely by the liver, and produces an excessive amount of triglycerides — fat which get into the bloodstream. Triglycerides can interfere with insulin signaling

in the brain, which plays a major role in brain cell survival and plasticity, or the ability for the brain to change based on new experiences. Results were similar in adolescent rats, but it is unclear whether the effects of high fructose consumption are permanent, she said.

Parent's lab works with Timothy Bartness, Regents' Professor of Biology, and John Mielke of the University of Waterloo in Waterloo, Ontario, Canada to examine how diet influences brain function.

Although humans do not eat fructose in levels as high as rats in the experiments, the consumption of foods sweetened with fructose — which includes both common table sugar, fruit juice concentrates, as well as the much-maligned high fructose corn syrup — has been increasing steadily. High intake of fructose is associated with numerous health problems, including insulin insensitivity, type II diabetes, obesity and cardiovascular disease. "The bottom line is that we were meant to have an apple a day as our source of fructose," Parent said. "And now, we have fructose in almost everything." Moderation is key, as well as exercise, she said.

Exercise is a next step in ongoing research, and Parent's team will investigate whether exercise might mitigate the memory effects of high fructose intake. Her lab is also researching whether the intake of fish oil can prevent the increase of triglycerides and memory deficits. Results from that research will be presented by her graduate student Emily Bruggeman at the 2009 Society for Neuroscience meeting in Chicago this fall.

**From: Nutrition Horizon 17 Jul 2009**

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## **Omega 3 Index Assesses Heart Attack Risk**

A new blood test that measures the level of omega 3 fatty acids in red blood cells has been introduced to the public as a consumer-friendly, at-home "finger stick" test.

While scientists have long known of the benefits of fish and fish oil for overall heart health, over the past decade research has proven the omega 3 fatty acids found in fish dramatically reduce risk for cardiovascular disease. Moreover, recent research indicates that omega 3 levels may be among the best predictors of future coronary heart disease—providing much stronger correlations to the risk of sudden cardiac death than traditional indicators, including HDL and LDL cholesterol.

The Gene Smart Omega 3 Index—from Winston-Salem, NC-based Gene Smart Wellness—measures the amount of EPA and DHA omega 3 fatty acids in red blood cell membranes and is expressed as the percent of total fatty acids. The results of the test are represented as a score that a significant body of research indicates may be an independent predictor of heart disease—with a score of 4% or less indicating a high risk, and a score of 8% or more indicating a relatively low risk.

"The research suggests that the levels of omega 3 fatty acids should be routinely measured, especially in vulnerable populations such as those at risk of cardiovascular and inflammatory diseases," said Floyd Chilton, PhD, a pioneer in inflammatory disease and omega 3 research and a professor of Physiology and Pharmacology at Wake Forest University School of Medicine. "This test is the most convenient, affordable and effective way to measure omega 3 levels."

However, very recent studies suggest that individuals have varying capacities to metabolize omega 3s. "So even if a person eats fish or takes fish oil supplements, they may not be getting enough," Dr. Chilton added. "It is important to measure omega 3 levels, so individuals can determine whether their dietary intake of this important nutrient needs to be adjusted."

In introducing its Omega 3 Index, Gene Smart has partnered with William Harris, PhD, a professor in the Department of Internal Medicine and Basic Biomedical Sciences at the Sanford School of Medicine of the University of South Dakota and co-author on the American Heart Association's (AHA) Scientific Advisory on Fish and Omega 3 Fatty Acids.

The Gene Smart Omega 3 Index uses Dr. Harris's proprietary HS-Omega 3 Index methodology, which was used in clinical studies that validated the correlation between the Omega 3 Index and heart disease risk.

"The strength of the association between omega 3s and heart disease is really quite remarkable," said Dr. Harris. "And the benefits of having a high Omega 3 Index, in the 8 to 10% range, speak for themselves. Individuals with a high Index have a decrease in the relative risk for sudden cardiac death by as much as 90%."

In addition to measuring the amount of omega-3s in the bloodstream, the new Gene Smart blood test provides a measure of a person's omega-6 to omega-3 ratio.

Dr. Chilton's latest research in nutrient/gene interactions, published in the *Journal of Biological Chemistry*, demonstrated that shifting ratios of omega-6 to omega-3 from greater than 15:1 to less than 5:1 in humans can positively influence genes that provide protection against allergies and other inflammatory diseases.

**From: Breaking News Nutraceuticals World 2009-08-21**

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## **Daily Potassium Citrate Wards Off Kidney Stones in Seizure Patients on High-fat Diet**

Children on the high-fat ketogenic diet to control epileptic seizures can prevent the excruciatingly painful kidney stones that the diet can sometimes cause if they take a daily supplement of potassium citrate the day they start the diet, according to research from Johns Hopkins Children's Center. A report on the work is published in the August issue of *Pediatrics*.

"We can confidently say this is a safe and powerful way to prevent kidney stones, and it should become part of standard therapy in all ketogenic dieters, not just those who already show elevated urine calcium levels," says senior investigator Eric Kossoff, M.D., a pediatric neurologist at Hopkins Children's. "If you wait, it might be too late."

The ketogenic diet, believed to work by initiating biochemical changes that eliminate seizure-triggering short circuits in the brain's signaling system, is given to many children whose seizures do not respond to medications. But the diet, which consists of high-fat foods with very few carbohydrates, causes a buildup of calcium in the urine and the formation of kidney stones in about 6 percent of those on it.

Hopkins Children's adopted the preventive treatment with potassium citrate two years ago, and doctors now believe this one major side effect of the diet is a thing of the past, allowing more children to remain on the diet for longer. Potassium citrate taken twice daily, either as powder sprinkled on food or dissolved in water, is believed to inhibit stone formation.

In their study of 301 children treated for epilepsy with the ketogenic diet at Hopkins Children's the researchers found that those who got potassium citrate twice daily were seven times less likely to develop kidney stones one of 106 (0.9 percent) developed a kidney stone compared to 13 out of 195 (6.7 percent) who were given potassium citrate only after testing positive for elevated levels of blood calcium. Most children received one 30-

milliequivalent packet (about 1, 170 milligrams or 0.04 ounces) of potassium citrate twice daily. Although rarely serious, kidney stones can cause significant pain, along with kidney and urinary tract infections, and may require surgery.

**From: Medical News Today 22 Jul 2009**

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## **Combining Healthy Habits Reduces Disease Risk**

Researchers note there is no “magic bullet” for better health, but that a combination of lifestyle factors such as eating a healthy diet, using dietary supplements and exercising regularly will reduce risk of chronic disease.

A study published recently in the *Archives of Internal Medicine* found that individuals who followed four healthy lifestyle habits—including never smoking, maintaining a healthy weight, exercising regularly and following a healthy diet—together reduced their risk of developing the most common and deadly chronic diseases by as much as 80%. Specifically, the four factors were associated with a 93% reduced risk of diabetes, 81% reduced risk of heart attack, 50% reduced risk of stroke and 36% reduced risk of cancer.

Similarly, a study published at the end of July in the *Journal of the American Medical Association*, looked at a combination of healthy lifestyle choices in regards to hypertension and found that women with six healthy lifestyle habits (having a body mass index of less than 25, a daily mean of 30 minutes of vigorous exercise, a high score on the Dietary Approaches to Stop Hypertension diet, modest alcohol intake, use of non-narcotic analgesics less than once per week and intake of 400 mcg/day or more of supplemental folic acid) resulted in a nearly 80% reduction in the risk of developing high blood pressure, which can often lead to heart attack, stroke and other chronic diseases.

Clearly healthy habits and chronic disease prevention go hand in hand, but it's also important to note that one healthy habit may influence other healthy habits. A 2008 survey from the Council for Responsible Nutrition (CRN), Washington, D.C., found that those consumers who take vitamins and other dietary supplements are more likely than non-users of supplements to also try to eat a balanced diet, exercise regularly, visit their doctor regularly and get a good night's sleep.

"Consumers who engage in one healthy habit are likely to engage in many healthy habits as part of their overall preventative lifestyle approach," said Douglas MacKay, ND, vice president, scientific and regulatory affairs, CRN. "One theory for this is that the discipline required to engage in one healthy habit influences other daily health decisions."

"These studies are good news for consumers because they reiterate that there are many small things that individuals can do that will have big impacts on their overall health and wellness," said William Cooper, MD, medical director of cardiovascular surgery at WellStar Kennestone Hospital, assistant professor of cardiothoracic surgery at Emory University and advisor to the "Life...supplemented" campaign. "I think that many healthcare professionals would agree that healthy habits such as eating a healthy diet, taking your daily vitamins, exercising regularly, not smoking, maintaining a healthy weight and getting enough sleep are part of a healthy lifestyle that helps maintain health and prevents chronic disease."

**From: Breaking News Nutraceuticals World 2009-08-11**

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## Regulatory News

### UK official calls for new approaches to food production

A British government official is calling for a "radical rethink" of food production and consumption. Environment Secretary Hilary Benn said Monday that last year's surge in the cost of food and oil was a "wake-up call," and that the United Kingdom must come up with strategies for producing more food while using less water, energy, and fertilizer.

Population growth and the impact of climate change on agriculture are factors contributing to the need for a more-sustainable approach to food production and a food security plan, according to the official. Genetically modified crops capable of increasing yield may be part of the strategy for improving food security, Benn said. He also urged UK consumers to reduce the amount of food waste, and to use their own judgment when evaluating "best before" labels on food products.

Global food production must increase by 70% by 2050 in order to meet the demands of a world population that will total 9 billion, according to estimates from the United Nations' Food and Agriculture Organization, Reuters reported.

Benn's comments came in conjunction with the release of the UK's first food security assessment. The assessment is part of a package that includes "Food 2030," an online discussion seeking input on the future of the UK food system. The British government is slated to publish a report that examines the entire supply chain—from farming and distribution to retail and waste management—later this year.

**From: IFT Newsletter August 12, 2009**

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### Smart Choices Program label debuts on packages

Hundreds of food and beverage products produced by some of the nation's largest food companies will soon begin to carry the Smart Choices Program front-of-pack nutrition label. A group of scientists, nutritionists, consumer organizations, and food industry leaders designed the label—a single, green checkmark and a calorie information box—to promote public health by helping shoppers make smarter food and beverage choices.

"The coalition worked very hard to develop nutrition criteria that met the highest of standards and a symbol consumers would appreciate and recognize when making choices at the point of purchase," said Eileen T. Kennedy, Dean of the Friedman School of Nutrition Science and Policy at Tufts University. "By providing a single, simple communication on the front of the package, the Smart Choices Program can help alleviate confusion in the supermarket and help today's busy shoppers make smarter choices for their families in store and at home."

The program, which is voluntary, has been under development for a couple of years. This summer marks the first time that consumers will see the label on packages.

Eligible food and beverage products cannot exceed standards for specific "nutrients to limit" and, for most categories, must also provide positive attributes, such as "nutrients to encourage" or "food groups to encourage." The labeling program is not a one-size-fits-all approach; specific qualifying criteria were developed for 19 different product categories, such as beverages, cereals, meats, dairy, and snacks.

Approximately 500 products from brands, including ConAgra Foods, General Mills, Kellogg Co. (U.S.), Kraft Foods, PepsiCo, Sun-Maid, Tyson and Unilever (U.S.), have already qualified for the Smart Choices Program designation. By May 2010, more than 1,200 products will feature the symbol and calorie indicator. Participating companies currently using other "better for you" nutrition labeling symbols have begun replacing them with the Smart Choices Program.

The Smart Choices Program was originally coordinated by The Keystone Center, a non-profit organization that specializes in coalition-based public health solutions.

**From: IFT Newsletter August 12, 2009**

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### **California firm recalls 825,000 lb of beef products**

Beef Packers Inc., Fresno, Calif., is recalling approximately 825,769 lb of ground beef products that may be linked to an outbreak of salmonellosis, according to the U.S. Dept. of Agriculture's Food Safety and Inspection Service (FSIS).

The ground beef products were produced on various dates ranging from June 5, 2009 to June 23, 2009, and bear the establishment number "EST. 31913" printed on the case code labels. The ground beef products were distributed to retail distribution centers in Arizona, California, Colorado, and Utah. Because these products were repackaged into consumer-size packages and sold under different retail brand names, consumers should check with their local retailer to determine whether they may have purchased any of the products subject to recall.

As a result of an ongoing investigation into an outbreak of *Salmonella* Newport associated with ground beef products, the Colorado Dept. of Public Health and Environment (CDPHE) notified FSIS of the situation. Epidemiological and traceback investigations conducted by FSIS and CDPHE determined that there is an association between the fresh ground beef products and illnesses reported in Colorado.

Consumption of food contaminated with *Salmonella* can cause salmonellosis, one of the most common bacterial foodborne illnesses. *Salmonella* infections can be life-threatening, especially to those with weak immune systems, such as infants, the elderly, and persons with HIV infection or undergoing chemotherapy. The most common manifestations of salmonellosis are diarrhea, abdominal cramps, and fever within 8–72 hours. Additional symptoms may be chills, headache, nausea, and vomiting that can last up to seven days.

**From: IFT Newsletter August 12, 2009**

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### **JECFA safety affirmation broadens market for tomato lycopene**

LycoRed Ltd., Israel, has announced that the Joint Expert Committee on Food Additives (JECFA) has affirmed that lycopene from tomato extract is safe for use as a food additive. LycoRed's Lyc-O-Mato and Tomat-O-Red tomato lycopene ingredients fall within the parameters of the JECFA monograph. These ingredients are added to food both as healthy colorants and to fortify foods with the full array of antioxidant-rich carotenoids found naturally in tomatoes.

“LycoRed is optimistic that along with additional toxicological evidence, the JECFA findings will be used by the European Food Safety Authority (EFSA) to support an increase to the Accepted Daily Intake (ADI) for

tomato lycopene in the EU,” said Zohar Nir, LycoRed’s Vice President of New Product Development and Scientific Affairs.

JECFA, administered jointly by the U.N. Food and Agriculture Organization and the World Health Organization, performs risk assessments on chemicals in food and provides advice to member countries of both organizations, as well as to the Codex Alimentarius Commission. The excellent safety profile of lycopene from tomato extract paved the way for JECFA to set no specific limitations on the ADI of this all natural tomato lycopene ingredient, now designated INS 160d(ii). This JECFA ruling is important to LycoRed’s tomato marketing efforts worldwide.

**From: IFT Newsletter July 26, 2009**

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## Food & Nutrition News

### Healthy Ice Pops

For kids, a cool, sweet ice pop can be a refreshing respite on a hot summer day. But a new breed of decidedly healthier frozen confections is allowing grownups to enjoy a little guilt free refreshment of their own.

Philippines-based Picolè Healthy Ice Pops markets a line of frozen pops that are both tasty and, as the company's title alludes, healthy. Self-described as a company that "sells foods with functionality," Picolè's pops are comprised of five lines: Juicy Pops, Milky Pops, Yogu Pops (yogurt/fruit blend pops), Dip Pops and Diet Pops. Each pop is loaded with only ripe, fresh fruits bits and fruit juices that are not heat treated in order to preserve the fruit's natural vitamins and minerals. The pops also contain beneficial nutrients like prebiotic and probiotic ingredients, which are derived from natural sources.

The company introduced its unique brand of frozen confections last year and is currently expanding its distribution in the U.S. At the helm of Picolè is a husband and wife team, Cristina and Al Meja, who have 10 years of food processing experience.

Mr. Meja explained that the use of fiber in his ice pop line was a no-brainer given fiber's well-known health benefits. "What compelled us in using prebiotic fiber is that this fiber has a lot of health benefits and we like putting functionality into all our ice pops," he said. "Prebiotic fiber helps balance our digestive flora. The best thing is that in our process the prebiotic fiber does not alter taste but gives you added health benefits."

Picolè's prebiotic fiber source is acacia (trade named Fibergum), which is produced by France-based Colloides Naturels International (CNI). It is GMO free, certified organic and has guaranteed antioxidant activity. It does not exhibit laxative side-effects; rather it behaves as a regulator, reducing diarrhea and risk of constipation. It is 100% vegetable origin and does not present any intestinal side effects. This fiber is present in all of the company's pops, with each pop containing an average of 3-5 grams of fiber per pop.

Picolè's pop flavors range from the ordinary to the exotic. Juicy Pops are available in seven flavors: Mango, Lemon, Strawberry, Chili Tamarind, Buko (coconut), Watermelon and Pineapple. Milky Pops span nine flavors: Cappuccino, Cookies and Cream, Strawberry, Corn (sweet corn and skim milk are high in fiber), Green-Tea (100% real, antioxidant-rich Japanese matcha green tea mixed with low fat milk), Ube, Avocado (nutlike flavor of avocado mixed with high protein skim milk and vanilla pod), Choco-Hazelnut (pure alkalized cocoa mixed with real hazelnut) and Melon.

Mr. Meja said his company draws its flavor inspirations from extensive research and through a lot of taste testing. "If we think it tastes good and is healthy, then we launch the flavor," he commented. "We always keep in mind that in the new world we live GOOD TASTE and HEALTH should already be as one. We have technology as our ally [and] are passionate and love our business. Our flavors we get from nature. Whatever the fruit tastes like then that is what the consumer gets." Mr. Meja said Picolè prides itself on its use of 100% natural ingredients. "Even our Cappuccino Milky is made with brewed coffee not with instant coffee," he noted.

**From: Report by Joanna Cosgrove Nutraceuticals World Jul 10, 2009**



## **Obesity Costs U.S. \$147 Billion a Year**

The health cost of obesity in the U.S. could be as high as \$147 billion annually, according to a study from Research Triangle Institute and the Centers for Disease Control and Prevention. The study, titled "Annual Medical Spending Attributable to Obesity: Payer- and Service-Specific Estimates," appears online in the journal *Health Affairs* and was released at the Centre for Disease Control (CDC) Weight of the Nation conference in Washington, D.C.

The proportion of all annual medical costs that are due to obesity increased from 6.5% in 1998 to about 9% in 2006, the study said. This total includes payment by Medicare, Medicaid and private insurers, and includes prescription drug spending. Overall, persons who are obese spent \$1429 (42%) more for medical care in 2006 than did people of normal weight. These estimates were compiled using national data that compare medical expenses for normal weight and obese persons.

Recognizing the large health and economic burden of obesity, CDC has issued its first comprehensive set of evidence-based recommendations to help communities tackle the problem of obesity through programs and policies that promote healthy eating and physical activity. The report, "Recommended Community Strategies and Measurements to Prevent Obesity in the United States," along with a companion implementation guide, appears in CDC's *MMWR Recommendations and Reports*. A companion implementation guide is also available on the CDC website.

"It is critical that we take effective steps to contain and reduce the enormous burden of obesity on our nation," said CDC Director Thomas Frieden, MD, MPH. "These new recommendations and their proposed measurements are a powerful and practical tool to help state and local governments, school districts and local partners take necessary action."

The Common Community Measures for Obesity Prevention Project was guided by a systematic process that included expert opinion and a review of the published scientific literature, resulting in the adoption of 24 recommended environmental and policy level strategies to prevent obesity.

The strategies promote the availability of affordable healthy food and beverages, support healthy food and beverage choices, encourage breastfeeding, encourage physical activity or limit sedentary activity, support safe communities that support physical activity and encourage communities to organize for change.

"Obesity is a risk for a number of chronic diseases, including diabetes, cardiovascular disease and some cancers," said William Dietz, MD, PhD, director of CDC's Division of Nutrition, Physical Activity and Obesity. "Reversing this epidemic requires a multifaceted and coordinated approach that uses policy and environmental change to transform communities into places that support and promote healthy lifestyle choices for all people."

CDC partnered with the International City/County Management Association to pilot test an initial set of obesity prevention measures in 20 communities. The resulting 24 recommended strategies and suggested measures are now being pilot tested by Minnesota and Massachusetts state health departments in order to determine their success. The strategies include: Communities should support locating schools within easy walking distance of residential areas; communities should improve availability of affordable healthier food and beverage choices.

The community measures project is a collaborative effort among CDC, the Robert Wood Johnson Foundation, the Kellogg Foundation, Kaiser Permanente and the CDC Foundation. ICF Macro serves at the coordinating

center for the project and the international City/County Management Association pilot tested the measures for each strategy in 20 communities.

**From: Nutraceuticals World Breaking News 2009-07-28**



## **Reduced Intake of Added Sugars Recommended**

A new American Heart Association scientific statement provides specific guidance on limiting the consumption of added sugars and provides information about the relationship between excess sugar intake and metabolic abnormalities, adverse health conditions and shortfalls in essential nutrients. The statement, published in *Circulation: Journal of the American Heart Association*, for the first time, provides the association's recommendations on specific levels and limits on the consumption of added sugars.

[View the Dietary Sugars Intake and Cardiovascular Health](#)

Added sugars are sugars and syrups added to foods during processing or preparation and sugars and syrups added at the table. High intake of added sugars, as opposed to naturally occurring sugars, is implicated in the rise in obesity. It's also associated with increased risks for high blood pressure, high triglyceride levels, other risk factors for heart disease and stroke, and inflammation (a marker for heart disease), according to the statement's lead author Rachel K. Johnson, Ph.D., M.P.H., R.D., associate provost and professor of nutrition at the University of Vermont in Burlington.

"Sugar has no nutritional value other than to provide calories," Johnson said. "Consuming foods and beverages with excessive amounts of added sugars displaces more nutritious foods and beverages for many people." The statement says that most women should consume no more than 100 calories (about 25 grams) of added sugars per day. Most men should consume no more than 150 calories (about 37.5 grams) each day. That's about six teaspoons of added sugar a day for women and nine for men.

In contrast, the statement cites a report from the 2001–04 National Health and Nutrition Examination Survey (NHANES) that showed the average intake of added sugars for all Americans was 22.2 teaspoons per day (355 calories). Soft drinks and other sugar-sweetened beverages are the number one source of added sugars in Americans' diet, according to the statement. "One 12-ounce can of regular soda contains about 130 calories and eight teaspoons of sugar," Johnson said.

The American Heart Association recommends a dietary pattern that is rich in fruit, vegetables, low-fat dairy products, high-fiber whole grains, lean meat, poultry and fish. "This new statement expands on earlier recommendations and gives consumers more detailed guidance by recommending a specific upper limit on added-sugars intake," Johnson said. In addition, the statement recommends that no more than half of a person's daily discretionary calorie allowance should come from added sugars.

Discretionary calories refer to the number of calories "left over" after a person eats the recommended types and amounts of foods to meet nutrient requirements, such as fruit, vegetables, low-fat dairy products, high-fiber whole grains, lean meat, poultry and fish. Added sugars, alcoholic beverages and solid fats — including saturated fat and trans fat — are typically considered discretionary calories that are to be included after individual daily nutrient requirements are met.

“It is important to remember that people’s discretionary calorie ‘budgets’ can vary, depending on their activity level and energy needs,” Johnson said. “So, if you can’t live with the recommended limits on your added sugars, you’ll have to move more.”

For example, a moderately active 51–55 year-old woman who eats 1,800 calories per day and maintains her weight would have about 195 discretionary calories per day and only about 100 calories, or half that amount, should come from added sugars. In comparison, if that same woman, still maintaining her weight, was more physically active and burned 2,200 calories a day, she could consume 2,200 calories a day, and would have a larger discretionary ‘budget’ of about 290 calories. About half of that amount, or 145 calories, could come from added sugars.

To ensure proper nutrient intake in the diet and to limit excess calories, Johnson said people should be sure foods high in added sugars are not taking the place of foods with essential nutrients or increasing their total calorie intake.

She recommended that people use their added sugars “allotment” as a vehicle to enhance the flavor of otherwise nutrient-rich foods. For example, choosing a nutrient-rich dairy product, such as a flavored yogurt or a sugar-sweetened whole-grain breakfast cereal, would be a better choice than a nutrient-void candy.

**Source: American Heart Association reported in Emax Health by Ruzanna Harutyunyan on Aug 25th, 2009**



## **New Report Sees Investment Opportunities in Functional Foods**

With \$20 billion to \$30 billion in sales a year, the functional food market offers tremendous growth opportunities for potential investors, according to a new report released by PricewaterhouseCoopers LLP (PwC). The report, titled “Leveraging Growth in the Emerging Functional Foods Industry: Trends and Market Opportunities,” pegs growth for the functional foods category within the range of 8.5% and 20% per year.

“Our study shows the tremendous need for education—for consumers, the industry, the healthcare profession and investors interested in this dynamic space—about what functional foods are and where the opportunities lie across segments,” said Glenn Pappalardo, Strategy Retail & Consumer Team Leader and director, Transaction Services, at PwC. “This market reflects the broad consumer push to focus on health and wellness. After years of public and private initiatives to recognize the connection between diet and health, consumers increasingly want to achieve health benefits with convenience and get helpful nutrition without drastically changing their behaviors.”

The report defines functional foods as foods fortified with nutritional and disease-preventing qualities that aim to promote better health and well-being, prevent the onset of chronic diseases and increase longevity. As consumers shift their attention to take a more involved, preventative approach toward their health, they will continue adopting functional foods, the report predicts.

According to PwC, the functional foods market represents about 5% of the overall U.S. food market. The U.S. functional foods market is estimated to be the largest in the world, representing between 35% and 50% of global sales, with Asia-Pacific being the next biggest market. Combined, the two markets are estimated to account for approximately three-quarters of the current global market for functional foods. Future growth is expected to be attributed to a combination of increasing consumer awareness and changing demographics—including the aging

Baby Boomer population and current healthcare trends.

The functional foods market can be segmented in two ways, according to PwC, by food type, or by health benefit. Soft drinks and dairy products constitute 60% of the market, by food type. The soft drink category includes enhanced water, which has grown in popularity as consumers seek alternatives to carbonated beverages, and sports drinks. Between 2002 and 2007, U.S. functional soft beverage revenues grew at about 12% annually, to \$9.6 billion. Dairy, the second highest growth segment, is gaining in popularity, largely due to innovation in functional yogurts. In the same time period, dairy grew to \$6.8 billion at about 8% annually.

Energy is the largest segment by health benefit with 29% of the market, largely due to the fact that these products tend to have attributes the consumer can feel quickly. In the U.S., the energy segment grew more than 6% annually between 2002 and 2007 to nearly \$8 billion.

Private label brands may be poised to gain traction in the functional foods market during the current recession by appealing to price-sensitive consumers, the report states. In 2008, overall sales of private-label food and other consumer products increased 10%, compared with 3% growth for branded products, a trend that could extend to functional foods. The report also defines key investment considerations, including strategic priorities for market entry and potential barriers, such as large multinational food manufacturers and consumer scepticism.

“This is a fast-changing industry where investors have to realize the great need for careful due diligence and legwork before they jump into the category,” said Mr. Pappalardo. “And because functional foods are driven by preventive approaches to maintain wellness, we don’t see this space as a fad, but rather as part of long-term shifts in consumer behaviour, which could have implications for investors’ strategies.”

**From: Nutraceuticals World Breaking News Breaking News 2009-08-20**



### **Most children recognize healthful food choices**

According to Technomic and C3, nine out of 10 children surveyed said that fresh vegetables and fresh whole fruits are healthy, and at least half said that fish, cheese, chicken, and peanut butter are healthy. Additionally, the children named salad (78%), steamed vegetables (76%), and eggs (72%) as healthy foods. They may not always eat these foods, but at least many children can identify them as healthful food choices.

"Kids now are health savvy, and the nutritional education they've received will impact their choices as consumers," said Darren Tristano, Executive Vice President of Technomic. "Health halo attributes related to natural, organic, local, and sustainable foods could present an opportunity in the coming years for restaurants that recognize this growing awareness on the part of young consumers."

The data are part of the Kids & Moms Consumer Trend Report (Family Attitudes and Motivations in Foodservice), which was written to help restaurant operators and suppliers understand dining preferences of children.

**From: IFT Newsletter August 12, 2009**



## More Consumers Connecting Foods with Health Benefits

Americans are recognizing the connection between food and overall health, with a recent survey showing that 89% agree certain foods have benefits that go beyond basic nutrition and may reduce disease risk. This percentage represents a significant increase from just two years ago, according to the International Food Information Council (IFIC) Functional Foods/Foods for Health Consumer Trending Survey.

“This year’s survey findings show us that Americans are making the connection that foods can play an important role in achieving optimal health,” said Elizabeth Rahavi, RD, and associate director of wellness at IFIC. “Consumers’ awareness of many food and health relationships has reached an all-time high.”

According to the 2009 survey, the top functional foods named by consumers are: 1) fruits and vegetables; 2) fish, fish oil, seafood; 3) dairy (including milk and yogurt); 4) meat and poultry; and 5) herbs/spices, among others. But beyond consumer interest in individual foods, research shows people are increasingly associating nutrients with specific health benefits such as:

- calcium and vitamin D for bone health
- whole grains for reduced risk of heart disease
- antioxidants for protection against free radical damage
- probiotics for digestive and immune health
- omega 3 fatty acids for cognitive development, especially in children.

While consumers say they want to eat foods for these benefits, data suggest they are struggling to follow through and incorporate them into their diet. “People might be surprised to know that the foods they are already eating can have real health benefits and taste great,” said David Grotto, RD, LDN, and author of 101 Foods That Could Save Your Life. “The key is to identify and take every opportunity to incorporate these beneficial foods—as part of your usual routine or even at special events.”

Other topics covered in the survey include Americans’ top health concerns, consumer interest in 16 specific benefits provided by certain foods and beverages and awareness and consumption of 27 different diet and health relationships.

**From: Nutraceuticals World Breaking News 2009-08-14**



### US children's food-advertising initiative has global impact

Three years after launching, 15 of America's largest food manufacturers and food-service companies are now participants in the Children's Food and Beverage Advertising Initiative. An example of an industry choosing to self-regulate, the initiative has also inspired look-alike initiatives around the world, including Advertising Standards Canada, and the European Pledge Program in the European Union, both started in 2007. Comparable programs in Thailand, Australia and South Africa also have been launched, the Better Business Bureau reports.

Created by the BBB in November 2006, the initiative requires participating companies to devote at least 50 per cent of their advertising in measured media primarily directed to children under age 12 to promoting healthier dietary choices or better-for-you products. In addition, to be considered a better-for-you product to be marketed to children, the company must nutritional criteria based on established science or government guidelines, such as USDA Dietary Guidelines, or the Food and Drug Administration's definition of "healthy foods."

The participating companies — which include Kellogg Co., Kraft Foods, General Mills, and McDonald's USA — accounted for an estimated two-thirds of all children's food-and-beverage TV advertising in 2004.

Participants have worked hard to bring their food products to reformulate existing products or create new ones to meet their commitments under the initiative, said Elaine Kolish, vice president and director of the initiative. "For example, both General Mills and Kelloggs have established their own nutritional criteria, which are very rigorous," Kolish said. "Both have reformulated the cereals they advertise to children in the past year to limit them to 12g of sugar per serving, exclusive of naturally occurring sugars.

"I think there is a misconception that reformulation is easy. It isn't. When you take out sugars, for example, you have to worry about more than just sweetness — there is taste, mouthfeel, other issues to consider. Just changing an ingredient is harder than it looks."

### **New recipes, new menus**

The formulation changes move beyond merely removing less-desirable ingredients, Kolish said. "If you look more closely at the foods by these companies, they are not just lower in calories, fats and sugars. They are affirmatively providing good nutrients. The vast majority of the products are not just better for you (than they used to be), they are actually good for you," she said.

For example, in the cereals category, all have been fortified with at least 8g of whole grains, as well as vitamins and minerals. McDonald's has launched a meal for children called a snack wrap, with chicken, cheese and lettuce, and a fruit and yoghurt parfait. Eleven out of 13 of Campbell's children's soups now limit themselves to 480mg of salt, which is the "healthy" level established by the FDA.

"In 2008, Burger King added fresh apple fries (apples sliced to look like fries) to its kids menu, and in 2009 it switched from low-fat milk to fat-free milk in all of its restaurants," Kolish said. "The participants continue to be improving their offerings. We (at the BBB) always intended this to be a dynamic program, and that promise is being kept."

If two-thirds of all children's food advertising involves participating companies, what is the situation with the remaining one-third? Why are those companies not coming on board?

"That's tough to answer," Kolish said. "Of course we welcome everyone to join, and we reach out on a regular basis. As for why some choose not to, it might be because some have limited food portfolios that have no better-for-you products (such as candy companies). Maybe they feel like they already have good products, that they are doing their part, so they don't need to join. It might be because there is a fee for joining. I really cannot speak for them." Among the larger food companies that have not joined include TOPPS candy company, Chuck E Cheese, Subway and Sunny Delight.

For more on Joysa Winter's research on marketing tots to teens, be sure to read the October issue of Functional Ingredients magazine and the website.

**From: Functional Ingredients Magazine by Joysa Winter August 11, 2009**



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**December 5, 2009**

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Andheri-Kurla Road, Mumbai

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### **Technofood Moscow**

**November 24-27, 2009**

Crocus Expo, Moscow, Russia

**Organisers:** ITE Group Plc

105 Salusbury Road, London NW6 6RG, UK

**T:** +44 20 7596 5000 **F:** 7596 5111

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### **Annapoorna: World of Food India**

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**Contact:** Chandra Shekhar, FICCI

**T:** 011-2331 6551 **M:** 9911185378

**E:** [chandra.shekhar@ficci.com](mailto:chandra.shekhar@ficci.com) **W:** [www.worldoffoodindia.com](http://www.worldoffoodindia.com)

### **Vitafoods International**

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Geneva Palexpo, Geneva Switzerland

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NIMHANS Convention Centre, Bangalore

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