

# SNIPPETS

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## COULD VINEGAR BE NATURAL FAT FIGHTER?

Ordinary vinegar – dilute acetic acid – may prevent the build up of fat, and therefore weight gain, according to results of a study with mice from Japan.

Animals fed a high-fat diet and supplemented with acetic acid developed about 10 per cent less body fat than mice just eating the diet, according to findings published in the *Journal of Agricultural and Food Chemistry*.

This is not the first time vinegar has been linked to weight control. In 2005 scientists from Lund University reported that increasing intake of the common flavouring could help dieters eat less and reduce cravings brought on by sugar peaks after meals (*European Journal of Clinical Nutrition*, Vol. 59, pp 983-988).

“The results of this study suggest that acetic acid suppresses body fat accumulation by increasing fatty oxidation and thermogenesis in the liver through PPAR-alpha,” wrote the researchers.

*NUTRAingredients.com 18 June 2009.*

## NITRATES AND NITRITES MAY BE NUTRITIOUS: STUDY

Nitrites and nitrates, much maligned additives in processed and cured meats, may help cardiovascular health, suggests a study from the US.

Following the much-vaunted Dietary Approaches to Stop Hypertension (DASH) diet, which produces beneficial reductions in blood pressure, results in an intake of nitrate of 550 per cent of the World Health Organization’s Acceptable Daily Intake (ADI), according to findings published in the *American Journal of Clinical Nutrition*.

“These data call into question the rationale for recommendations to limit nitrate and nitrite consumption from plant foods; a comprehensive re-evaluation of the health effects of food sources of nitrates and nitrites is appropriate,” wrote the authors, led by Norman Hord from Michigan State University. However, observational studies, including data from the third National Health and Nutritional Examination Survey (NHANES) on 7,352 subjects over the age of 45, have suggested that increased consumption of nitrites from cured meat could increase the risk of lung disease.

“Therefore, indications that dietary nitrate or nitrite reduces cardiovascular disease risk are insufficient to relax standards for nitrate in drinking water and foods.”  
*FOODnavigator.com 16-Jun-2009*

## STUDY SHOWS BPA MAY LEACH FROM PLASTIC BOTTLES

In a study published in *Environmental Health Perspectives*, Harvard School of Public Health researchers found that participants who drank for a week from polycarbonate bottles showed a two-thirds increase in their urine of the chemical bisphenol A (BPA). The study, according to its authors, is the first to show that drinking from polycarbonate bottles increases the level of urinary BPA. The study participants—77 Harvard college students—began by drinking all cold beverages for seven days from stainless steel bottles in order to minimize BPA exposure. The participants provided urine samples during the seven-day period. They were then given two polycarbonate bottles and asked to drink all cold beverages from the bottles during the next week. Urine samples also were provided during that time. The results showed that the participants’ urinary BPA concentrations increased 69% after drinking from the polycarbonate bottles. In this study, the students did not wash their bottles in dishwashers or put hot liquids in them. The researchers noted that they would expect the levels to be even higher if the bottles were heated, as in the case of baby bottles. *IFT Newsletter. 3 June 09.*

## CONTROL STRATEGIES FOR SALMONELLA COLONISATION OF POULTRY: THE PROBIOTIC PERSPECTIVE

Probiotics have been shown to inhibit a range of *Salmonella enterica* isolates in poultry. These organisms may offer an additional tool in the arsenal of current control strategies to prevent zoonotic *Salmonella* transmission to humans. Currently, there are five key mechanisms by which the inhibition of pathogens is thought to occur, including immunomodulation. The use of probiotics in poultry to modulate the host immune system has been shown to aid the clearance of *Salmonella*. This article reviews the current understanding of probiotic inhibitory mechanisms, the interactions between the host and *Salmonella* and the practical use of probiotics in vivo to reduce/inhibit *Salmonella* in poultry.

*Foodscience|central 3 June 09.*

<http://www.foodsciencecentral.com/fsc/ixid15682>

## WHO UPDATE ON TRANS FATTY ACIDS

The World Health Organization (WHO) Scientific Update on Trans Fatty Acids (TFAs) concluded that trans fatty acids should be differentiated according to source.

The trans fatty acids that naturally occur in dairy products are different from those industrially produced. According to the report, although ruminant trans fatty acids cannot be removed entirely from the diet, their intake is low in most populations and to date there is no conclusive evidence supporting an association with CHD risks in the amounts usually consumed.

The conclusions also revealed that “controlled trials and observational studies provide concordant evidence that consumption of industrially produced trans fatty acids from partially hydrogenated oils adversely affects multiple cardiovascular risk factors and contribute significantly to increased risk of CHD events. They

have no known health benefits and should be avoided.”  
*Flavour Dynamics, Inc. 5/26/2009*  
<http://www.foodproductdesign.com/news/2009/05/who-update-on-trans-fatty-acids.aspx>.

#### VITAMIN D DEFICIENCY: DATA DENOTES DEMENTIA DANGER?

Low blood levels of vitamin D may increase the risk of dementia and Alzheimer’s disease, says a new hypothesis based on existing risk factors.

A growing number of studies have linked deficiency of vitamin D to increased risks of cardiovascular diseases, diabetes, osteoporosis, depression, and periodontal disease, all of which have been linked to some degree to increased risks for dementia.

Based on these risk factors, William Grant, PhD, from the Sunlight, Nutrition, and Health Research Center (SUNARC) hypothesizes that vitamin D deficiency may also be a risk factor for dementia. The hypothesis is published in the current issue of the *Journal of Alzheimer's Disease*. *NUTRAingredients.com 27-May-2009*

#### ANTIFREEZE GELATIN PROTEINS BOOST ICE CREAM STRUCTURE: STUDY

Collagen peptides produced from bovine gelatin may stop ice crystal formation in supercooled ice creams, opening up possible new innovations to formulators, suggests new research.

Researchers from the Department of Food Science at the University of Wisconsin used the Alcalase enzyme (from *Bacillus licheniformis*) to produce hydrolysed collagen peptides derived from bovine gelatin. The new protein reportedly binds to the surface of ice in the ice cream, and prevents the growth of ice crystals.

“One of the major advantages of collagen-derived antifreeze peptides is that unlike other natural antifreeze proteins, the antifreeze activities of collagen peptides are not destroyed by thermal treatments,” wrote ShaoYun Wang and Srinivasan Damodaran in the *Journal of Agricultural and Food Chemistry*.

The research taps into ongoing innovation in ice cream formulation. Only recently Unilever was granted EU novel foods approval for the ingredient ice structuring Protein (ISP), used in ice cream to reduce fat content and improve stability. *FOODnavigator.com 01-Jun-2009*

#### WHAT'S TO REMEMBER ABOUT THE GLYCAEMIC INDEX?

A study by Smith and Foster 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.

*Food Science Central – Update 159, 19 May 2009. Nutritional Neuroscience 11 (5) 219-227.*

#### FOOD COMPANIES ARE PLACING THE ONUS FOR SAFETY ON CONSUMERS

Banquet pot pies sickened thousands with salmonella in 2007. The corporate parent, ConAgra Foods, and others have decided to leave the “kill step” to eliminate pathogens up to the consumer’s cooking at home. Banquet pot pies include exacting cooking instructions in order to kill any possible pathogens.

So ConAgra — which sold more than 100 million pot pies last year under its popular Banquet label — decided to make the consumer responsible for the kill step. The “food safety” instructions and four-step diagram on the 69-cent pies offer this guidance: “Internal temperature needs to reach 165° F as measured by a food thermometer in several spots.”  
*New York Times Business 14 May 2009.*

#### EFSA SAYS ACRYLAMIDE LEVELS ARE RISING NOT FALLING

Levels of acrylamide, a suspected carcinogen that forms during high-temperature cooking, are increasing rather than decreasing in key food products, according to a new survey published this week by the European Food Safety Authority.

EFSA raises a question mark over voluntary initiatives undertaken by the food industry to reduce the levels of acrylamide using the toolbox promoted by the Confederation of European Food and Drink Industries (CIAA). Cookies had 243 ug/kg acrylamide in 2003-6, rising to 317 ug/kg by 2007. Acrylamide in breakfast cereals rose from 116 ug/kg in 2003-6 to 156 ug/kg in 2007. Acrylamide in french fries rose from 284 ug/kg in 2003-6 to 350 ug/kg in 2007. A few products showed a fall in acrylamide — coffee, bread, potato chips and "other products." *Food Chemical News Friday May 15 2009*

#### EFSA ADVISES RAISING CARBOHYDRATE REFERENCE INTAKE

EFSA was asked for its opinion of the nutrient intake amounts included in the proposal for the new EU regulation on nutrition labelling, which in its current form envisages a system that gives nutrients as a percentage of reference intake levels.

The system is not dissimilar to that already used in the guidance daily amounts (GDA) scheme, developed and implemented by the food industry. The European Commission’s proposed upper reference levels for energy (8400kJ), total fat (70g), saturated fat (20g), total sugars (90g) and salt (6g, or 2.4g sodium) are the same as those for GDAs, and are intended to represent the requirements of an average woman.

The regulation also proposed a labeling reference intake of 230g for carbohydrates, corresponding to 46 per cent of total energy. In this case, the reference intake is a lower limit. The panel therefore proposed a labeling reference intake for carbohydrate at 260g, 52 per cent of energy for a 8400kJ diet.

*FOODnavigator.com. 6 May 2009*