

SNIPPETS

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IFST WEBSITE ADDITION

Please note that IFST has now issued an updated Information Statement on Genetic Modification & Food. The direct URL is <http://tinyurl.com/juv48> (The statement says genetic modification can significantly improve the quantity and quality of the world's food supply.)

GREENLIGHT FOR CSIR SORGHUM TRIALS IN BID TO IMPROVE NUTRITION IN AFRICA

South Africa's Council for Scientific and Industrial Research (CSIR) recently received approval from the South African government to undertake greenhouse trials on GM sorghum.

The CSIR is one of the key scientific contributors in an international research project to nutritionally enhance grain sorghum.

The Africa Biofortified Sorghum (ABS) Project seeks to develop a more nutritious and easily digestible sorghum that contains increased levels of essential amino acids, especially lysine, increased levels of Vitamins A and E, and more available iron and zinc.

Bielines 108 *Sept.* 2008.
(http://ntww1.csir.co.za/plsql/ptl0002/PTL0002_PGE157_MEDIA_REL?MEDIA_RELEASE_NO=7522063)
(See the SAAFoST website for the Association's response to compulsory "GM" labelling in the Consumer Protection Bill. Ed.)

HOW TO DETECT WHETHER NEMATODES ARE HORSING AROUND

Trichinella spp. are intracellular parasitic nematodes with a broad range of hosts including humans. The parasites are transferred to new hosts by the consumption of raw or undercooked meat. Consumption of infected meat can cause disease in humans.

Meat inspection and processing regulations developed to protect humans were originally designed for pork, when *Trichinella* was considered a monospecific genus that posed a risk only to pork consumers. However, these regulations may no longer be adequate for controlling newly recognised species and genotypes. In addition, recent outbreaks of human trichinellosis have implicated infected horsemeat.
<http://www.foodsciencecentral.com/fsc/ixid15347>

MORE PHYTOESTROGENS IN DIET THAN PREVIOUSLY THOUGHT

Phytoestrogens are secondary plant metabolites which some studies have suggested may protect against cancer, heart disease, osteoporosis, obesity, type 2

diabetes and the side-effects of the menopause. On the negative side, other research has indicated that phytoestrogens may lower sperm count and increase the risk of breast cancer in women. However, other studies have found no link at all between phytoestrogens and these ailments.

Despite the potential health benefits and concerns related to phytoestrogens little research has been conducted regarding total phytoestrogen concentrations in the diet. Previous research has focused on isoflavones in soya and lignans in other types of food. Gunter Kuhnle and colleagues from the University of Cambridge, UK, therefore hypothesised that the consumption of phytoestrogens might be being underestimated.

To evaluate the phytoestrogen content of the diet the team analysed for isoflavones (biochanin A, daidzein, formononetin, genistein and glycitein), lignans (matairesinol and secoisolariciresinol) and coumestrol concentrations in 38 beverages, nuts, seeds and oils. Analysis was performed using mass spectrometry. Results showed that all the foods and beverages tested contained phytoestrogens. Tea and coffee contained up to 20µg/100g and beer (except bitter) contained up to 71µg/100g phytoestrogens, mainly lignans. Other non-alcoholic beverages contained only small amounts of isoflavones. The phytoestrogen content, particularly the lignan content, was much higher in nuts and seeds, especially in Brazil nuts (887µg/100g) and pumpkin seeds (539µg/100g). The main lignan detected was secoisolariciresinol.

Phytoestrogen content was also shown to vary by up to seven fold depending on variety and by up to 20 fold due to different sources of origin.

The authors concluded that in most of the foods analysed, the lignan content was much higher than the isoflavone content, and that lignans were the main contributors to total phytoestrogen consumption.

The team concluded that phytoestrogens are present in far more foods than had previously been realised. The results will contribute to a database of dietary phytoestrogen content. (Published in the *Journal of Agricultural and Food Chemistry*, 56 (16), pp 7311 - 7315, 2008. *RSSL Food e-news* 405. *Sept.* 2008.)

GM GRAPE COULD REVITALIZE MIDWEST WINE INDUSTRY

Scientists from the University of Illinois have developed a new grape variety resistant to the popular herbicide 2, 4-Dichlorophenoxyacetic or 2, 4-D. The new variety, named Improved Chancellor, harbors a bacterial gene that allows them to metabolize the herbicide. Normally, 2, 4-D is lethal to most grape varieties even at concentrations 1/100th of the amount used to kill broadleaf weeds.

"After the grapes have been tested and found safe to eat, I think it's going to be beneficial to Minnesota, Nebraska, Illinois and other Midwestern states -- anywhere grain is grown and 2, 4-D is sprayed on the crops," said Robert Skirvin, plant biologist in the College of Agriculture, Consumer and Environmental Sciences. Because the new grape is genetically modified, it has not been tested outside the greenhouse yet. The researchers hope to get permission to grow them in an isolation plot outdoors by spring 2009.
CropBiotech Update 17 October 2008

Read the full article at <http://www.aces.uiuc.edu/news/stories/news4528.html>

CONSUMERS FEAR THE PACKAGING - A BPA ALTERNATIVE IS NEEDED NOW

"I have a bad feeling about this." Luke Skywalker's warning in the movie blockbuster, "Star Wars" could equally be applied to consumers' concerns about Bisphenol A (BPA).

Unless European and US manufacturers follow the example of their Japanese counterparts and implement measures to reduce or replace BPA, they could find that it's their consumers who 'strike back'.

Proponents of BPA, the resin found in the linings of canned food and baby bottles, maintain its safety. The plastic and food packaging industries argue that the compound is cost effective and durable and that there are no effective alternatives. But is the evidence against BPA beginning to stack up?

Earlier in September, scientists from the US National Toxicology Programme said that effects on reproductive development from BPA in packaging cannot be ruled out and a study released last week by UK scientists linked the chemical to diabetes and heart disease. *NUTRAingredients.com 22 Sep. 2008.*

FIELD EVOLVED RESISTANCE TO BT PROTEINS

Scientists from the University of Arizona (UA) led by Bruce Tabashnik, a renowned entomologist, published a paper in *Nature Biotechnology* on the possibility of cotton bollworm/corn earworm (*Helicoverpa zea*) gaining resistance to the Bt toxins contained in transgenic Bt cotton and Bt corn. An article, authored by a team of international researchers and published on this month's issue of the journal, 'questions' the conclusion of Tabashnik and colleagues. *CropBiotech Update 24 October 2008*

INDUSTRY AFTER SMILING BOB: YOUR VIEWS

At the end of August, the founder of US supplements firm Berkeley Premium Nutraceuticals received the most severe punishment yet to be handed out for fraud in the industry: A 25-year jail sentence and \$93,000 from his personal savings. The company was ordered to forfeit \$500m.

The offence was selling male sexual enhancement products under false pretenses. *nutraingredients-usa 26-Sep-2008*

<http://www.nutraingredients-usa.com/layout/set/print/content/view/print/220613>

DIATOMS ARE TRANSGENIC BY NATURE

Diatoms are small microscopic algae encapsulated by intrinsic, often striking, lace-work like shells of glass. They produce 20 percent of the oxygen we breathe by capturing atmospheric carbon and in so doing, counter the greenhouse effect. An international team of researchers led by the U.S. Department of Energy Joint Genome Institute (DOE JGI) and the Ecole Normale Supérieure of Paris published the complete genome sequence of the diatom *Phaeodactylum tricorutum*. Their study appears in the current issue of the journal *Nature*.

According to Chris Bowler, lead author of the paper, diatoms are transgenic by nature. They have come to acquire advantageous genes from bacterial, animal and

plant ancestors enabling them to thrive in today's oceans. Diatoms 'inherited' photosynthesis from plants and production of urea from animals. What's more, the tiny alga draws the best of both worlds - it can convert fat into sugar, as well as sugar into fat - extremely useful in times of nutrient shortage. *CropBiotech Update 17 October 2008*

Read the full article at http://www.jgi.doe.gov/News/news_10_15_08.html

The abstract of the paper published by *Nature* is available at <http://dx.doi.org/10.1038/nature07410>

CHINA SAYS COMPLAINTS ABOUT MILK BEGAN IN 2007

One of China's biggest dairy producers received consumer complaints about its baby milk formula as early as December 2007. This is much earlier than previously thought and 10 months before the producer ordered a nationwide recall because of concerns that the formula had been adulterated with a toxic industrial chemical, melamine, state media said.

The disclosure, in a government report publicized by the official Xinhua News Agency, is the latest indication that the producer, Sanlu Group, had repeatedly tried to hide information about its contaminated dairy supplies from the public. *New York Times 23 Sep. 2008.* For more go to: <http://www.nytimes.com/2008/09/24/world/asia/24milk.html?scp=1&sq=sanlu%20group%20received%20consumer%20complaints&st=cse>

ANTHOCYANINS AND COLON CANCER: STRUCTURE IS KEY

The structure of anthocyanins, the antioxidant pigments from a range of fruit and vegetables, is key to the cancer fighting abilities, reports a new study from the US.

A study published in the *Journal of Agricultural and Food Chemistry* 8561(06) 1750, 2008, reports that "The chemical structures of anthocyanins do have a significant impact on their biological activity, and data suggest that nonacylated monoglycosylated anthocyanins are more potent inhibitors of colon cancer cell growth proliferation," wrote lead author Pu Jing from The Ohio State University.

The researchers cautioned that more research is necessary to explore the role of anthocyanin structure and the chemo-protective effects. The study adds to a growing body of science that indicates that the potential anti-cancer benefits of the antioxidant compounds are most commonly associated with berries. *NUTRAingredients.com 19-Sep-2008.*

STUDY SHOWS BOTTLED WATER NO MORE "PURE" THAN USA TAP

Tests show that the leading brands of bottled water contain the same contaminants that are in tap water.

The two-year study was released by the Environmental Working Group, a scientific organization advocating stricter government regulations. *IFT Weekly Newsletter 15 October 2008.*

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