

## WN Updates

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Editor's note. Welcome to this new department of *World Nutrition*. It is made up of short communications from members of the editorial team designed to add new information to WN commentaries and other contributions. Updates are invited from all readers. Please address contributions for publication to [wn.updates@gmail.com](mailto:wn.updates@gmail.com). Usual length for main text of updates is between 100 and 850 words. References usually to be limited to up to 10.

### *The 'Western diet'. Diets based on food* Eat well and halve your risk of disease

[Access April 2002 American Journal of Clinical Nutrition McCullough et al here](#)

[Access May 2013 American Journal of Medicine Akbalary et al here](#)

[Access April 2013 Daily Mail news story here](#)

[Access December 2012 WN The Food System Monteiro et al here](#)

**Mail**Online

Wednesday, Apr 17 2013

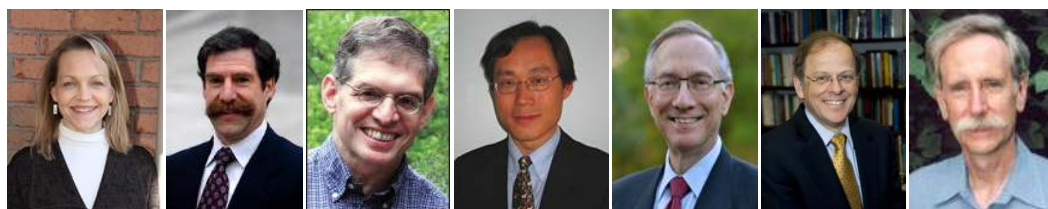
### **The Western diet really IS a killer: People who eat white bread, butter and red meat are most likely to die young**

London, Boston, São Paulo. Our news team reports. Findings of studies on food, nutrition, health and disease can sometimes be sensational. The fair headline from the UK mass market *Daily Mail*, reports from a study published in print this month of May (1,2). Its summary of the 'killer diet' is not quite right: the authors summarise it as 'characterized by high intakes of fried and sweet food, processed food and red meat, refined grains, and high-fat dairy products', or as a 'processed food' diet.

### *The Whitehall study*

The study followed a cohort of over 5,000 people with a mean average age of 51 in the UK from 1988 to 2009. It is part of the ‘Whitehall 2’ project based at University College, London, in which the dietary and activity patterns of civil servants are examined. It finds that those who ate a healthy diet halved their risk of serious physical and other including mental diseases and disorders, compared with those who ate a typical British diet, and retained well-being. A cautious conclusion is: ‘We showed that specific dietary recommendations such as the one provided by the AHEI [Alternative Healthy Eating Index] may be useful in reducing the risk of unhealthy aging, while avoidance of the “Western-type foods” actually might improve the possibility of achieving older ages free of chronic disease and remaining highly functional’ .

### *The Harvard study*



*Some of the Harvard team: Majorie McCullough, Meir Stampfer, Edward Giovannucci, Frank Hu, David Hunter, Graham Colditz, and Walter Willett*

So what is the AHEI? The Whitehall study collaborates the findings a decade ago of a team mainly from the Harvard School of Public Health, some of whom are pictured above. The Alternate Healthy Eating Index is so-called in opposition to the official US ‘Healthy Living Index’. It identifies a complete dietary pattern that emphasizes fresh and minimally processed foods and ingredients, whole grains and lightly processed oils, and that minimises red meat, processed meat and processed products generally. In a landmark 2002 paper (3), the Harvard team’s results were much the same as those of the May 2013 report. Their conclusion was: ‘The dietary pattern represented by the AHEI predicted lower incidence of major chronic disease in men and women and was related to important reductions in cardiovascular disease risk’.

### *The Food System project*

Commenting on the Whitehall and Harvard study results, Carlos Monteiro of the University of São Paulo says: ‘This important and impressive work has close affinities with the thesis we have been advancing, in *World Nutrition* (4) and also recently in *The Lancet* (5) and other journals. The one difference is that we feel the Alternate Healthy Eating Index would produce even more impressive results if it singled out what we term “ultra-processed products” as a target for analysis. For instance, our colleagues at Harvard confirm that processed and ultra-processed meat products are particularly unhealthy, and also are like us appalled by high consumption of sweet soft drinks, which are also ultra-processed, being industrial formulations solely of ingredients’.

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- 5 Moodie R, Stuckler D, Monteiro C, Sharon N, Neal B, Thamarangsi T et al. Profits and pandemic: Prevention of harmful effects of tobacco, alcohol, and ultra-processed food and drink industries. *The Lancet* 2013; **381**, 9867, 670-679.

Please cite as: Anon. The 'Western diet'. Diets based on food. Eat well and halve your risk of disease. [Updates]. *World Nutrition* May 2013, **4**, 5, 218-220.

## UN Food and Agriculture Organization Food is best for world health and welfare



[Access May 2010 WN Michael Latham on vitamin A supplementation here](#)

[Access June 2010 WN Harriet Kubnlein on indigenous food systems here](#)

[Access June 2012 Lois Englberger and Harriet Kubnlein on vitamin A here](#)

[Access February 2011 WN editorial on RUTF here](#)

[Access February 2011 WN Michael Latham et al on RUTF here](#)

[Access September 2012 Independent Science News Ted Greiner on vitamin A here](#)

[Access February 2013 WN editorial on fortification here](#)

[Access March 2013 Lancet editorial on DEVTA trial here](#)

[Access April 2013 FAO CGRFA Biodiversity and nutrition report here](#)

[Access April 2013 FAO CGRFA Biodiversity and nutrition paper here](#)

[Access this month's WN Feedback on food product fortification here](#)

Rome. Our news team reports. The topics of four *World Nutrition* commentaries and their accompanying editorials, are represented by the visual images above. are being examined by the UN Food and Agriculture Organization. They all relate to the vastly

important general issue of food security, malnutrition and the right to adequate and nourishing food. One is universal vitamin A supplementation, vehemently criticised by Michael Latham in the first issue of *WN* (1,2) of May 2010. Two is ready-to-use supplemental food (RUTF), considered by Michael Latham, Urban Jonsson, Elisabeth Sterken and George Kent in the February 2011 *WN* already to be grossly overused and abused (3,4). Three is fortification of food products, seen as problematic by Mark Lawrence in the *WN* of March this year (5,6), a debate that continues in this month's Feedback section (7).

And four, in contrast, is the development of food systems to supply much more nourishing food, which should make supplementation, the use of special foodstuffs, and product fortification, necessary only in cases of actual clinical malnutrition. This is advocated by Michael Latham and many colleagues, and also by Harriet Kuhnlein and her colleagues around the world in the Centre for Indigenous People's Food and Environment (CINE), as set out in the second issue of *WN* in June 2010, including in our letters columns. (8-10).

### ***Biodiversity and nutrition***

These issues, and the overall issue, have been debated energetically within relevant agencies of the UN system since the foundation of the UN after the 1939-1945 war. Biodiversity is being championed by the UN Food and Agriculture Organization with special energy, as the 2014 United Nations year of sustainable agriculture, and the FAO/WHO International Conference on Nutrition (ICN2) also scheduled for 2014, approach. On 15-19 April, in a meeting in Rome, FAO discussed 'key issues on biodiversity and nutrition' with the Commission on Genetic Resources for Food and Agriculture. The Commission, set up in 1983 under the aegis of FAO, is the permanent forum for governments to discuss and agree issues such as biological diversity (see Box 2). Two of the papers prepared for the meeting can be accessed above and are referenced below (11,12). They are challenging. One begins:

'Many countries and agencies attempt to combat malnutrition with short-term health and nutrition interventions such as supplementation, Ready-to-Use Therapeutic Foods (RUTFs), fortification and sporadic health and nutrition policies and programmes. Not only are these interventions unsustainable, but in recent years doubts have been articulated with respect to their efficacy' This passage uses as references, Michael Latham's May 2010 *WN* commentary (2), and later also a paper by Ted Greiner whose position on universal vitamin A supplementation is as sharply critical as that of Michael Latham (13).

The 'key issue' emphasised by FAO, is that the nutrient quality of the same species of food sources, and also of variants of species, can and does vary vastly. With reference to work done by CINE (8-10) it states 'For example, one banana can provide less than 1 per cent or more than 200 per cent of the RDI [recommended daily intake] for vitamin A'. See below.



*The more deeply pigmented a banana, the greater its content of carotenoids (left). (Right) stamps issued by Pohnpei to celebrate its indigenous foods*

Harriet Kuhnlein and Lois Englberger explain some of the significance of nutritional biodiversity in a letter published in *WN* in June 2010, written in full awareness of the implications of their findings for world food and agriculture policy. See Box 1.

### *Box 1*

#### The value of local food systems

An aim of the Indigenous Peoples' Traditional Food for Health International programme led by the Centre for Indigenous Peoples' Nutrition and Environment (CINE) has been to present the inherent strengths of local traditional food systems, and also to demonstrate that interventions to promote these food systems could make significant improvements to local communities

Thus, yellow- and orange-fleshed bananas, some of which are as deep orange as carrots, are rich in provitamin A and other carotenoids, and thus have major potential globally for improving vitamin A status. There are many of these cultivars in Africa, Latin America, Asia and the Pacific regions, and their potential health value has never been properly recognise... A shift to increased production and consumption of more carotenoid-rich cultivars could have a great impact globally...

Further, vitamin A is only one of many nutrients at risk among vulnerable populations. Biodiverse diets contain many, and most likely all, necessary nutrients for human nutrition. For this reason also we do not favour single nutrient programmes.

One can well imagine care-providers juggling for their clients a suite of capsules, packets, and nutrient-fortified foods, while the basic needs for 'real' food go missing. This deprives children and their families of the many social, cultural, aesthetic, economic and health benefits provided by healthy local food systems. It is time that agriculture, health and development agencies gave a much higher priority to building and remediation of holistic food systems, fully to address all aspects of food security.

The position of FAO as expressed in the Commission on Genetic Resources for Food and Agriculture papers, confronts the generally held assumption that children all over the world who are not sick, but who are defined as malnourished, should have their diets supplemented as a precaution. This practice damages local food systems and economies, and renders whole populations dependent on unreliable supplies often from foreign sources.

Thus: 'When ecosystems are not able to support sustainable diets there is a legitimate use for supplements, RUTF and fortificants [but] they should not be marketed or distributed in ways that may interfere with sustainable diets'. But 'When ecosystems are able to support sustainable diets, nutrition programmes, policies and interventions supporting the use of supplements, RUTF, fortificants and infant formulas are inappropriate and can lead to malnutrition... The marketing of these food substitutes and related products can contribute to major public health problems'.

Further, 'Some micronutrient deficiencies are easily measured (eg vitamin A and iron). However, these deficiencies need to be regarded as markers for deficiencies of 100 or more vitamins, minerals, individual amino acids and fatty acids, and other beneficial bioactive food components. Such deficiencies can only be avoided by consuming a variety of foods'.

In general, 'Sustainable diets are defined as diets with low environmental impacts that contribute to food and nutrition security and health life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable, nutritionally adequate, safe and healthy; while optimizing natural and human resources'.

### *Box 2*

#### The FAO Commission on Genetic Resources for Food and Agriculture

The UN Food and Agriculture Organization Commission on Genetic Resources for Food and Agriculture was established in 1983 to deal with issues related to plant genetic resources. In 1995, FAO broadened the mandate of the Commission to cover all aspects of biodiversity relevant to food and agriculture. It is the one permanent forum for governments to discuss and negotiate issues relevant to biological diversity for food and agriculture. It aims to reach global agreements on policies for sustainable use and conservation of genetic resources for food and agriculture, and fair and equitable sharing of benefits derived from their It oversees global assessments of the state of the world's plant and animal genetic resources, and negotiated major international instruments, including the International Treaty on Plant Genetic Resources for Food and Agriculture.

Other UN agencies, supported by international aid organisations, national governments, and many specialist scientists notably in the US, are convinced that a quasi-medical approach to potential as well as actual malnutrition is essential. As the UN International Conference on Nutrition 2 approaches, and with next year also being the UN year of sustainable development, there will be more coverage of these issues in *WN*.

Please cite as: Anon. UN Food and Agriculture Organization. *Food is best for world health and welfare*, [Updates]. *World Nutrition* May 2013, 4, 5, 220-224.

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## *The Food System. Ultra-processed products* Regulation: getting the message



[Access July 2012 PLoS Medicine paper on Big Food here](#)

[Access December 2012 WN editorial on The Food System here](#)

[Access December 2012 WN commentary on The Food System here](#)

[Access February 2013 The Lancet summary of paper on Profits and Pandemics here](#)

[Access April 2013 Daily Mail news story here](#)

[Access March 2013 home page news story on The Food System here](#)

[Access March 2013 WN commentary on The Food System here](#)

# MailOnline

Tuesday, Feb 12 2013

## **Food and drink companies are using the same dodgy tactics as tobacco companies to protect profits, leading experts warn**

*São Paulo. Our news team reports.* The WN Food System commentaries, altogether now accessed over 125,000 times, are becoming influential, as the above headline in the UK popular newspaper the *Daily Mail* shows (1). ‘Food and drink firms undermining public health policy, say scientists’ was the headline in *The Guardian*. They were referring to the *Lancet* paper ‘Profits and pandemics; prevention of harmful effects of tobacco, alcohol and ultra-processed food and drink industries’ (2) which since its original publication has been extensively publicised in the world’s media and which is now known to be the second most cited paper published in *The Lancet* in all of February. The paper incorporates key themes of *The Food System* project, undertaken by a group at the University of São Paulo, in collaboration with the World Public Health Nutrition Association. Two of the recent *Food System* WN commentaries can be accessed above (2,3) together with other papers and contributions (4).

‘The *Lancet* paper is powerful above all for two reasons’ says co-author Carlos Monteiro. ‘First because it makes clear that self-regulation by industry is not working and will not work. We in the global South are vividly aware of this’. Lead author Rob Moodie, professor of global health at the University of Melbourne, Australia, lead

author of the paper, agrees. He says ‘Self-regulation is like having burglars install your locks. You feel you’re safe, but you’re not’.

‘Second’ says Carlos Monteiro ‘the paper makes a clear distinction between ultra-processed products and the huge corporations responsible for them, on the one hand, and on the other hand, fresh, minimally processed and also other forms of processed foods. “Ultra-processing” is not just another term like “highly processed food” or “junk food”. Ultra-processed products are not modified food. They are formulated not from food but from all sorts of combinations of ingredients such as fats, oils, sugars, starches and proteins often altered using special technology, together with many types of salt, chemical preservatives and cosmetic and many other additives. It is often said that whereas we don’t need tobacco or alcohol, we do need food. This is true. Further, many forms of processing that preserve and otherwise modify food are essential, valuable, or harmless’.

‘We need to get our concepts and analysis right’, Carlos Monteiro added. ‘It is also true that we don’t need ultra-processed products, which in key senses, while edible, are not real food. The public health crisis we are facing is not caused by the food industry as a whole or by food in general. It is being caused mainly by the colossal global corporations responsible for ultra-processed products. Food supplies in most parts of the world have been or are being flooded above all by ultra-processed products, which are displacing long-established food systems based on the combination of foods and culinary ingredients into meals. That’s why *The Lancet* paper, and our continued commentaries in *World Nutrition* and elsewhere are, we believe, breaking through to the real issues about food, nutrition, health and disease’.

*Editor’s note. A further The Food System commentary is published in WTN in June, next month.*

*Please cite as: Anon. The Food System. Industry: regulation. Getting the message. [Updates]. World Nutrition May 2013, 4, 5, 225-227.*

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## Ultra-processed product addiction

### Cookie crunching



[Access September 2012 WN food addiction editorial here](#)  
[Access September 2012 WN food addiction commentary here](#)  
[Access November 2012 home page news story on food addiction here](#)  
[Access March 2013 WN Geoffrey Cannon on The Food System here](#)  
[Access August 2005 Chicago Tribune investigation here](#)  
[Access March 1991 note of meeting between Philip Morris and Kraft here](#)



2005. *Emilee Aversa, Jaimie Robinson, both 6, tuck into Double Stuff Oreos. Audrey Sekendur, and her friend Rachel Wax, both 11, sing the Oreo song*

#### *Geoffrey Cannon writes from Sao Paulo*

Are some food products addictive? Towards the end of last year *WN* ran a commentary and editorial on this controversial topic whose cover picture is above (1,2), and there was an Association website home page story (3), plus another *WN* commentary last month (4). We may have given the impression that the work in particular of Nora Volkow, director of the US National Institute on Drug Abuse, is new. It is not. The question of whether some products are addictive has been around for a long time. We were reminded of this by being shown a 2005 investigation by the *Chicago Tribune* of Oreo cookies (5). The pdf of the story, which as published is close to 10,000 words plus supporting documents, can be accessed above.

*Box 1*

**Oreos. Please take note.**

The *Chicago Tribune* investigation was carried out at a time when Kraft General Foods was owned by Philip Morris. Kraft Foods became a separate company in 2007, and that part of Kraft responsible for snacks with global sales such as Oreos is as of 2012, the Mondelēz corporation. The investigation was carried out at a time when Oreos contained substantial amounts of *trans* fats, which replaced lard in the mid 1990s, and were replaced by non-hydrogenated plant oils (canola and palm) in 2006. Oreos, like many other snack products, now do not contain *trans* fats. Oreos do not have a nutritional profile significantly different from that of other cookies of their type, and it is not suggested that the neurological effects of regular consumption of Oreos is significantly different from those resulting from regular consumption of various other fatty, sugary processed products. The issue of addiction to any food product remains highly controversial. The investigation was prompted partly because Oreos are the #1 cookie in the US, and partly because Kraft General Foods gave the journalists access to its plant and staff.

Oreos were 100 last year. This cookie is the US favourite, with a total of 50 billion sales to date. It is a \$US 1 billion annual seller. Made in over 20 factories, it comes in many shapes and sizes. Oreo ovens can be the size of a football field. Sales are highest in the US, followed by China, Venezuela and Canada. Like other sweet cookies, its dietary energy is from flour, oil and sugar, it is about 60 per cent fat and sugar. Oreo chief food scientist Sam Porcello, who died in Oreo's centenary year, masterminded the basic modern formulation of chocolate and crème filling.

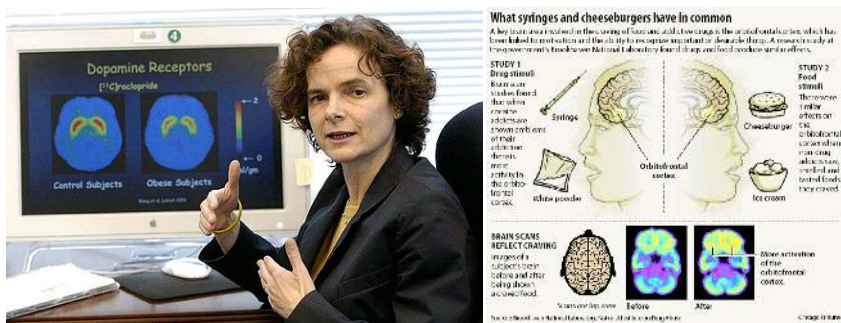
In 2005 the Oreo was anatomised by a *Chicago Tribune* team of business reporter Delroy Alexander, Patricia Callahan of the paper's investigative team, and science and medical correspondent Jeremy Manier. The team examined internal company documents, scientific studies, government lobbying records, congressional testimony, and lawsuits and filings with the US Securities and Exchange Commission. They reviewed two decades of Oreo publicity, and interviewed hundreds of scientists, policymakers, health activists, and current and former employees of Kraft General Foods from factory workers to chief executives.



*2005. Oreos were 7.3 per cent trans fats. Kraft scientists were struggling to eliminate these technically useful fats while keeping the cookies crunchy*

Two things make the investigation of special interest now. It took place at the time when the formulation of Oreos was being changed to replace partially hydrogenated plant oils (and therefore a lot of *trans* fats, see the list above, left), with non-hydrogenated oils. The picture above, right, shows Kraft scientists Jean Spence and Kelly Jones at a frustrating point in this process, at that time unable to substitute for crunchy trans fats and stop seepage. By 2006 the problem was fixed.

What the investigators also found was that in common with many other fatty, sugary food products, the yummy and more-ish and even habit-forming qualities of Oreos were at that time already being examined by scientists independent of industry. Based on animal and human experiments, these were being identified as quasi-addictive, or even as frankly addictive. Scientists with this view then – and now – included Nora Volkow (left, below), Director of the US National Institute on Drug Abuse. An explanation of the impact of food products like cheeseburgers and ice-cream on the brain is shown in the graphic below, right, published in the *Chicago Tribune* investigation.



*2005. Nora Volkow, who believes that various food products are addictive, and (right), diagram based on animal and human experiments showing why*

What did industry itself think about how various food products might affect brain function? Philip Morris, then the parent company of Kraft General Foods, the manufacturers of Oreos, way back in 1991 had joint discussions on topics including ‘the possibility of collaborative studies in areas that would be of mutual interest to PM and KGF’. A new ‘Brain Wave’ computer system used by Kraft to record and analyse electrophysiological responses in animals might, according to the company note of 26 March, be effective in ‘investigating the vagus, glossopharyngeal and trigeminal nerve responses to tastants that would be of mutual benefit to PM and KGF’.

The note made no mention of possible ill-effects of Kraft General Foods products. Indeed, to the contrary. It ends ‘Our visit concluded with a delightful tour of the Sensory Testing and Research Kitchen facilities. Fortunately for them, but to our dismay, they had just concluded their cheesecake testing’. This was all a long time ago and as stated, Philip Morris and Kraft Foods are now separate corporations, as is the Mendelz corporation, now the manufacturer of Oreo cookies worldwide.

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