



Organic Food Quality & Health

Organic Food Quality News

Nov/Dec 2004

This monthly newsletter, edited by nutritionist and independent organic researcher Shane Heaton, is provided by the FQH association to keep researchers, the industry and other interested parties abreast of the latest news in organic food quality, research, health, diet and other relevant issues. Comments and contributions are welcome, or if you find an item of news that you think should be included, please email shane@dontjustsurvive.com

Quote of the month:

“44 percent of Americans take prescription drugs”

Centers for Disease Control and Prevention report, “Health, United States 2004”
The other interesting statistic from the United States this month is to be found in the very last story below. Don't miss it.

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1. PESTICIDES

US: Study Links Pesticides to Parkinson's disease

JB VERRENGIA, www.hinckleydrug.com/PestPark.htm

New research using rats suggests that long-term exposure to a widely used pesticide kills brain cells and triggers debilitating physical symptoms associated with Parkinson's disease. Scientists say the experiment's results strongly indicate what scientists have suspected for several years - that the most common form of Parkinson's disease might result from toxins in the environment. The new study, published in the December issue of Nature Neuroscience, does not prove that the pesticide used in the test, rotenone, causes Parkinson's in humans. But scientists who reviewed the experiment said the results are powerful and should reinvigorate the search for environmental toxins that may contribute to Parkinson's, the most common neurological disorder after Alzheimer's.

In the experiment conducted at Emory University in Atlanta, neurologists implanted tiny pumps in the rats to continuously administer low doses of rotenone through the jugular vein for as long as five weeks. "Whether the pesticide would have the same effect in people via normal routes of exposure is not clear." Study author Greenamyre said half of the rats gradually showed Parkinson's symptoms. Examination revealed that large numbers of dopamine-producing cells in the rats' brains had died or were damaged. In addition, the cells showed fibrous protein deposits that closely resemble Lewy bodies, deposits found in brain cells of Parkinson's patients. Greenamyre said future rotenone experiments with rats would test new drugs aimed at protecting dopamine-producing cells. In the meantime, he suggested that farmers and public health agencies reconsider pesticide usage. "Pesticides are essential for growing crops, but we may need to think about minimizing their environmental impact," he said.

Ed – this study is also a wake-up call for the organic industry. Rotenone, I believe, is one of the pesticides allowed in organic standards, but by what criteria was it allowed? It's natural source is certainly no guarantee of safety, as this study shows,

US: Calls to halt pesticide study

(Washington, Oct. 29) — An Environmental Working Group (EWG) investigation into a controversial pesticide study found that the chemical industry's lobbying arm, the American Chemistry Council (ACC), boasted to its members that a \$2 million contribution it made to the study had gained the industry "considerable leverage" over the project. (<http://www.uslri.org/news.cfm?id=newsletters> Fall 2004 pg. 9). The claim severely undermines the EPA's assertion that the money comes with "no strings attached." The study, in which 60 families are paid \$970 plus a t-shirt and a bib to expose their children to pesticides through normal home applications, will undoubtedly lure poorer families to participate and may even encourage them to apply pesticide in their homes that they would not normally use. Participants who see the study through to the end get to keep the video camera.

By accepting \$2 million from the chemical lobby, EPA has granted the industry it should be regulating special advance access to study results that the public and independent scientists will not have. "Which is more disturbing — a government study that pays people to expose their children to pesticides, or the EPA selling its science for \$2 million?" asked EWG vice president for research Jane Houlihan. EWG president Ken Cook wrote to EPA Assistant Administrator Paul Gilman, "[l]et us be clear: it's an extremely bad idea to pay people to expose their children to dangerous pesticides, while giving the regulated industry 'leverage' by accepting its money to do this. You should stop — today — this outrageous study, immediately return the pesticide lobby's money, and start afresh on studying the important question of chemicals' health effects

on children. Surely the \$7,000,000 the Agency is putting into this study, or \$120,000 per child, could be redirected to projects that more effectively advance public health protections — and the health of study participants."

EWG's correspondence with the EPA and the ACC document saying "considerable leverage" are available on EWG's website, <http://www.ewg.org>. EWG is a nonprofit research organization based in Washington, DC that uses the power of information to protect human health and the environment.

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US: How to buy government approval of carcinogenic pesticides

Although banned in Europe, atrazine, a dangerous corn pesticide linked to cancer and endocrine disruption, continues to be used on millions of acres of farm land across the U.S. While environmental organizations have long lobbied the Environmental Protection Agency (EPA) to ban the toxic chemical, biotech giant Syngenta, the producer of atrazine, has enlisted former Republican vice-president Bob Dole as a spokesperson for atrazine. Atrazine has recently gained further bad press due to studies showing that it causes deformities in frogs. In addition, Syngenta has recently sunk over a quarter of a million dollars into lobbying the EPA to keep the pesticide legal. The EPA has responded by re-registering atrazine as legal and safe. <http://www.organicconsumers.org/foodsafety/syngenta110104.cfm>

US: Methyl bromide targeted in international consumer campaign

November 23, 2004, Environmental Investigation Agency press release

The Environmental Investigation Agency (EIA) is launching a campaign to convince United States supermarkets to stop selling food, such as tomatoes, strawberries and nuts, grown or treated with the deadly chemical methyl bromide. EIA, an independent, international non-profit organisation, is investigating the supply chains for major supermarkets and will be campaigning to have products produced with methyl bromide removed from shelves across the nation. Methyl bromide is harmful to the global environment as well as to human health. It is a potent contributor to the destruction of the ozone layer. Damage to the ozone layer results in increased rates of skin cancer and cataracts around the world, particularly among children. Direct exposure to this toxic chemical can result in headaches, nausea, chest and abdominal pain, respiratory failure, and even death. Many strawberry and tomato fields treated with methyl bromide are located so near as to endanger homes, schools, and churches. The pesticide has also been identified as a significant source of occupational illness, injuring the farm workers who grow these crops. In addition to the acute effects of exposure, a recent United States study of over 55,000 male pesticide applicators found that methyl bromide users had a statistically greater risk of developing prostate cancer, and those who had longer exposure to the chemical were at higher risk.

2. ADDITIVES

US: Aspartame suspected in Gulf War Syndrome

Following our recent separate pieces on both aspartame and gulf war syndrome, Oliver Dowding has submitted the following comment linking the two:

"Of the 698,000 American service personnel who served in Gulf War 1, some 230,000 have officially recognised health claims, as at November 2002. Since that war, over 11,000 have

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died, which is way above normal for a group whose average age was 36. Suspicion on causes is widely debated. One theory is that they drank a lot of coke. Now, when coke is left at temperatures over 90F, the aspartame in it converts to (?). This was not how it was meant to be handled, and much is being done within the relevant Government departments and the supplying corporations to ensure this is not widely debated or understood.”

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3. ANTIBIOTICS/FOOD SAFETY

Australia: Food Irradiation tour highlights dangers

Campaigners claim that food irradiation destroys or damages the nutritional content of foods, affecting vitamins, proteins and fatty acids. Vitamins B1, B2, B6, B12 folic acid, C, E and K are significantly damaged by irradiation, while essential amino acids and polyunsaturated fatty acids can also be killed. The lack of nutritional value of irradiated foods is not the greatest concern consumer advocacy groups have about food irradiation. According to Wenonah Hauter, Director of the Critical Mass Energy and Environment Program, the U.S. Food and Drug Administration and the World Health Organisation have ignored a lot of research demonstrating that irradiated foods is not safe for human consumption. Ms Hauter has spent several years documenting the history of the food irradiation industry and believes that food irradiation has a negative health effect on consumers. "The negative health effects that irradiated foods have had on lab animals are well documented, including premature death, mutations, foetal death and other reproductive problems, immune system disorders, fatal internal bleeding, organ damage, tumours, stunted growth and nutritional deficiencies," said Ms Hauter. "The World Health Organisation has ignored a vast amount of research suggesting that irradiated foods are not safe for human consumption," said Ms Hauter.

Consumer advocacy group Pure Foods said that the real reason food irradiation is allowed to continue despite health concerns is that multi-national corporations make billions of dollars in profits from having an extended shelf life of food. Wenonah Hauter said Food Irradiation significantly alters the composition of food causing chemicals not naturally produced in food to occur. These chemicals include 2-alkylcyclobutanones, or 2-ACBs, benzene and methyl ethyl ketone that has been linked with birth defects, "cancer development in rats and genetic damage in human cells". A National Food Irradiation Tour took place throughout Australia in November. Contact: Robin Taubenfeld from Food Irradiation Watch 0411 118 737

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4. GMOs

Germany: GE farmers legally responsible for contamination

BERLIN - The German parliament on Friday (26/11) passed a controversial law laying down strict rules on the cultivation of genetically modified (GM) plants, winning praise from environmental groups but drawing complaints from farmers and biotech companies. The law, set to take effect January 1, includes provisions making farmers using GM plants legally responsible for the contamination of non-GM crops and obliging them to enter all land used for GM cultivation in a public register. The law comes after the European Union agreed to lift a

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long-standing moratorium on GM crops. Opponents of the bill, including the farmers' union (DBV), argue the rules will hinder vital research and innovation. The government and environmental groups such as Greenpeace say the law was necessary to protect consumers and farmers. Agriculture Minister Renate Kuenast, a member of the environmentalist Greens who is also responsible for consumer protection, said she was pleased "clarity" had been created for households and farmers. "In a timely way, the law provides....legal clarity and planning security in the farming industry," she added.

In a statement, the DBV said: "The result of the GM law will be that research and development are neglected which are necessary to assess in an objective way the advantages and disadvantages of this green genetic technology." The GM bill was blocked in the upper house but passed with a government majority in the lower chamber. REUTERS NEWS SERVICE

Italy: Tough co-existence plan passes

The Italian Government has just passed a bill on coexistence between GM, conventional and organic crops. Berlusconi tried to block the bill as restrictive and illiberal, but in the end he and his ministers had to pass it because of the popular outcry. Roberto Pinton of Italy's Green Planet told GM Watch, "Only one minister voted against the ban: Mr. Castelli (the Attorney General). But he is not a GM-campaigner; on the contrary: 'I am against to the coexistence decree as I am strongly contrary to GMs: no coexistence is possible. My ideal law about this matter has only a short article: 'GMs are not allowed in Italy' ". The decree bans GM crops up to December 31, 2005. Regions are asked to pass their own laws not later than this date. Laws have to set coexistence criteria, aimed to avoid contamination of non-GM crops. Thirteen out of 20 regions have passed laws declaring GM-free status. The decree bans the cultivation of GMOs in open fields, in a bid to prevent the contamination of traditional crops. But it will not outlaw restricted and protected testing of GMOs.

<http://www.gmwatch.org/archive2.asp?arcid=4620>

EU: Green light from Brussels for GM corn in food formulations

GM starch and corn oil are cleared for use in European food formulations after Brussels gives the green light on a genetically modified maize line from US biotech giant Monsanto. Facing the fury of anti-GM campaigners, earlier this year the Commission broke the *de facto* moratorium on GM foods and pushed through approval, the first, for a GM sweetcorn supplied by Swiss biotech firm Syngenta to enter the food chain. Monsanto's clearance marks the second. The biotech firm's NK603 maize had already been approved for import and use in animal feed in Europe, but with both approvals in place food makers can now use the maize and its derivatives in a raft of food products. The GM sweetcorn cannot be cultivated in Europe. David Byrne, the Commissioner responsible for health and consumer protection, claims a clear labelling system now in place for GM foodstuffs in Europe means that "consumers can now choose whether or not to buy any genetically modified products". Opening the door to allowing new GM products onto the marketplace. But the unpopularity of biotech crops in the minds of the European consumer means the food industry has been slow to embrace the GM food sources on the grounds of simple business sense. Food manufacturers keen to keep sales afloat will reject any use of genetically modified sources in their formulations, and consequently any need to GM label.

A recent survey polled by the UK's consumer magazine Which? found that consumers in the UK feel even more strongly about GM foods than they did two years ago and more than six out of 10 people (61 per cent) were concerned about the use of GM material in food production - up from 56 per cent in 2002. Shoppers are not only concerned about GM ingredients in food; 68

per cent want manufacturers to go one step further and source non-GM animal feed, so meat and dairy products would have no links with the GM process.

Although the member states had earlier failed to give the green light for the Monsanto GM NK603 corn, the Commission pushed approval through under a facet of European law known as the 'comitology procedure' - when the European council of ministers fails to reach a majority decision, the Commission itself can force it through. Critics suggest the Commission move is for the most part political, linked to pressure from the US – a leading global supporter and supplier of GM food crops – that continues to push Europe into accepting GMOs into the food chain. The US charges that its biotech farmers are losing billions of dollars in trade as the borders to Europe remain closed. In 2000 the US cleared the NK603 maize, designed for increased tolerance to the herbicide glyphosate, the active ingredient in the Monsanto herbicide Roundup, for crop production. Japan and Canada gave the green light for production of NK603 in 2001, and all these countries allow its use in human food and animal feed. Australia joined the club in 2002 when it cleared the way for NK 603 use in food, although it is still banned in animal feed and crop production. Non-GM maize, or corn, is grown commercially in over 100 countries, with a combined global harvest of about 590 million metric tonnes. Major producers of maize in 2000 were the US, China, Brazil, Mexico, France, and Argentina. Maize is grown primarily for its kernel, which is largely refined into products used in a wide range of food, medical, and industrial goods. 27/10/2004 – *Foodnavigator.com*

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5. BSE

US: Suspect animal tests negative for mad cow

By Jon Bonné MSNBC

Tests found that a cow suspected of harboring a second U.S. case of mad cow disease was not infected, Agriculture Department officials said Tuesday, easing concerns about the fatal disease's spread but raising new questions about the tests used to check for it. A statement from John Clifford, deputy administrator of the USDA's Animal & Plant Health Inspection Service, said that two confirmatory tests were run on a sample from the animal in question. Both returned negative results. Two initial tests at the state level had returned positive, prompting the sample to be sent to the agency's Ames, Iowa, laboratory, the statement said.

A possible second case — or "inconclusive," as industry and government officials call them — was initially reported, though few details were provided about the cow's location or age. Both factors are significant because they help trace other possibly infected animals in the U.S. herd. An animal's age shows whether it was affected by 1997 feed rules enacted by the Food and Drug Administration designed to minimize the most likely causes of the always-fatal disease, which is thought to be caused when cattle eat the infected protein of another cow. The USDA refuses to release those details unless a cow is confirmed positive after additional testing. "This is not an unexpected situation and proves why it is important to await the final test results," Jan Lyons, president of the National Cattlemen's Beef Association, said in a statement.

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6. NUTRIENT CONTENT

Denmark: Organic milk boasts higher vitamin E and carotenoid levels

Organic milk has significantly higher quantities of vitamin E - a key component in contributing to the shelf-life of milk - than its conventional equivalent, say Danish researchers, suggesting the origins of the difference are rooted in the feed. Food scientists at the Danish research centre for organic farming studied the content of potential antioxidants and vitamins in conventional and organic milk over several months. They found that in seven out of 10 samples the organic source contained significantly more vitamin E - alpha-tocopherol - than conventional milk. *“The results indicate that less synthetic vitamin E is added in the organic milk production, and in spite of this, the content of vitamin E is higher in organic milk than in conventional milk,”* say the researchers.

“The most important reason for the observed differences is presumably the large amounts of maize silage used in the conventional production, whereas a considerable amount of grass and leguminous plants are used in the organic production,” they add. Vitamin E, that acts as an antioxidant in prolonging the shelf-life of the milk, is available partly in the plants and the plant-based feed products eaten by the cow, but a synthetic product is also available. In the synthetic production process, eight different stereo-isomers (varieties) of alpha-tocopherol are formed of which only one is nature-identical. *“These stereo-isomers of a-tocopherol constitute 15.8-24.7 per cent in the conventional milk, but only 6.2-13.5 per cent in the organic milk,”* report the scientists. In addition to vitamin E, the researchers investigated the level of carotenoids found in the two milks, finding that the content was higher in organic milk, and that levels of the powerful antioxidant beta-carotene were two to three times higher in organic milk than in conventional milk. While these compounds act as health-promoting antioxidants, a number of significant flavour components in the milk are formed on the basis of the carotenoids, affecting the taste because the substance contributes to the formation of these aromatic components. *“If the organic farmers wish to produce milk with a high level of vitamin E and carotenoids in the future, the share of maize in the feed rations should not be increased,”* summarise the Danish food scientists Jacob H. Nielsen, Tina Lund-Nielsen and Leif Skibsted. 03/11/2004 – Foodnavigator.com

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7. HEALTH & DIET

UK: Optimum Nutrition Survey Redefines Healthy Eating

Britain's Largest Ever Health Survey shows that the majority of people in Britain today are 'vertically ill'; they are living in a grey area between diagnosed disease and true wellness. They think it's all part of 21st century living, but it needn't be. Simple diet changes would give them optimal health. We are all told to eat a 'well balanced' diet but what does this actually mean? The shocking results of Britain's largest ever survey of over 37,000 people's health and diet, conducted by the Institute for Optimum Nutrition (ION) and presented to Government at the House of Commons on Wednesday 27 October, shows just how many people are literally digging their own graves with a knife and fork and have little idea what a well balanced diet really means.

The first part of the ONUK study, based on a comprehensive web-based MyNutrition questionnaire, investigated the state of people's health in Britain. Only 6% were in 'optimal

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health', while 44% were in poor health, with frequent low energy (80%), constipation (81%), high stress (75%), PMS (women 64%), abdominal bloating (64%), frequent colds (50%), headaches or migraine (46%) and depression (46%) and other common symptoms. "The survey shows that most people are 'vertically' ill. Still upright, but not feeling great", said Patrick Holford, founder of ION. "Doctors deal with sick people, the 'horizontally ill', but what the ONUK survey shows is that most people are living with low energy, aches and pains attributing them to 21st century life when they are preventable with simple diet changes."

The second part of the ONUK survey defined what kind of diet was associated with health. The results, shown overleaf, show that the worst foods for health are sugar and caffeinated drinks (tea, coffee and cola), followed by red meat, wheat and dairy products (milk and cheese). The best foods for health were fruit and veg, nuts and seeds, oily fish and drinking water. People who drank eight glasses of water a day were twice as likely to be in optimal health. While the report endorses the Government's '5 a day' campaign, it found that the healthiest people ate 8 or more servings of fruit and vegetables. The negative effects on health of eating sugar and sugary snacks was five times worse than the positive effects of eating fruit and vegetables. "The ONUK survey shows that government campaigns to curb sugar and caffeine consumption will do much more for the nation's health than just eating more fruit and vegetables. It also shows that the conventional wisdom that a well balanced diet should contain plenty of dairy products and bread, is wrong" said Holford, whose survey found that the healthiest people were the lowest consumers of wheat and dairy products. Amidst growing fears that high dairy consumption is linked to increased rates of breast, ovarian* and prostate cancer, and recent discoveries that 1 in 100 adults are seriously allergic to gluten in wheat, the ONUK survey results confirm what nutritionists have been saying for years. Holford's book, corroborated by the survey results, the New Optimum Nutrition Bible, extols a diet closer to that consumed in Asia, where breast and prostate cancer are virtually unheard of, with less meat, more fish and very little milk and wheat, substituting oats, rice, plus other grains. He also recommends eating more beans, lentils, nuts and seeds.

For further information contact: Aliya Dallara on aliya.dallara@ion.ac.uk The ONUK survey of 37,000 people is more than twenty times larger than the Food Standards Agency's National Diet and Nutrition Survey on 1,724 people, published last year. The ONUK survey (price £11.99) can be purchased from <<http://www.ion.ac.uk/onukorderform.htm>>

* In other news, researchers in the November issue of the *American Journal of Clinical Nutrition*, Vol. 80, No. 5, 1353-1357 conclude "Our data indicate that high intakes of lactose and dairy products, particularly milk, are associated with an increased risk of serous ovarian cancer but not of other subtypes of ovarian cancer."

EU: Why we eat what we eat: social and economic determinants of food choice

(From eufic online – the European Union Food Information Council)

A previous article in this mini-series on the determinants of food choice considered the biological factors involved in food selection. The article highlighted the need to consider the senses when promoting dietary change. This article focuses on the socio-economic factors that influence food choice and draws attention to the difficulties facing low-income groups in achieving a healthy diet.

Social influences on food intake refer to the impact that one or more persons has on the eating behaviour of others, either direct or indirect, either conscious or subconscious. Even when eating alone, food choice is influenced by social factors because attitudes and habits develop through the interaction with others. Research has shown that we eat more with our friends and family than when we eat alone and the quantity of food increases as the number of fellow diners

grows. The relationship between low socio-economic status and poor health is complicated and is influenced by gender, age, culture, environment, social and community networks, individual lifestyle factors and health behaviours. Population studies show there are clear differences in social classes with regard to food and nutrient intakes. Low-income groups in particular, have a greater tendency to consume unbalanced diets and have low intakes of fruit and vegetables. See the full article at www.eufic.org/gb/food/pag/food45/food451.htm

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8. RESEARCH

UK: International congress on "organic farming, food quality and health" to be held in Newcastle, UK 6 – 9 January 2005

New evidence highlighting higher vitamin levels in organic food will be among the research presented and debated at a major international congress taking place from 6 to 9 January 2004. Around a thousand delegates will gather at Newcastle University in the north of England for the congress, whose theme is the links between farming methods, food quality and human health. A new study from Denmark, which will be presented at the congress, shows that feeding practices used in Danish organic dairy farming result in significantly higher levels of vitamin E and other antioxidants in organic milk. Jacob Holm Nielsen, a scientist from the Danish Research Centre for Organic Farming (DARCOF), has carried out the study and will present the results at the congress. In another study Kirsten Brandt, Director of Newcastle University's food centre, will present a review of data linking an increased level of nutritionally desirable secondary metabolites (antioxidants, vitamins, flavanoids, polyphenols) found in organic vegetables to increased pest and disease resistance. These results are particularly interesting, since they suggest that methods used in organic and low input farming to increase the resistance of plants (and therefore minimise the use of pesticides) will at the same time improve the levels of nutritionally desirable compounds.

In the area of food safety congress delegates will hear about research linking organic livestock feeding methods with safer meat products. Recent studies show that organic feeding regimes may reduce the risk of E. coli O157 shedding in cattle. The congress is being jointly organised by the leaders of several European-funded research projects, including the major integrated Quality Low Input Food project (see www.qlif.org) and the Soil Association, the UK's leading organisation promoting and certifying organic food. The event is aimed at the research community, food producers, regulatory authorities and other stakeholders within food production, but also the farming community. In order to attract farmers from all over Europe the organisers offers substantial discounts for small-scale producers. A full programme and other information can be found at www.qlif.org

Australia: IFOAM congress next year

The IFOAM is inviting participants for its 15th Organic World Congress to be held from 20-27 September 2005 in Adelaide, Australia. The theme of the conference is 'Shaping Sustainable Systems' and will include the 'International Scientific Conference on Organic Agriculture'. For further information visit www.nasaa.com.au/ifoam2005 or contact Jan Denham on +61 3 5027 9249, email ifoam2005@nasaa.com.au. Submissions for papers closed on 15 December.

EU: FiBL publishes activity report 2004

The Faculty of Organic Agriculture (FÖL) of the University of Kassel and the Research Institute of Organic Agriculture (FiBL) have agreed to intensify their research & development co-operation in the field of organic agriculture and agricultural ecology.

The 72-page Activity Report 2004 documents the progress of the FiBL's research and consulting activities. Easy-to-understand articles and many photos provide an insight into completed and current FiBL projects. Particularly useful for customers and partners is a current list of all spheres of activity of FiBL in Germany, Switzerland and Austria and a detailed list of staff and their latest publications. The Activity Report is obtainable in German, English and French. <http://www.fibl.org>

Italy: Novel Approach to Compare the Safety of Organic and Conventional Foods

According to a team of Italian scientists, the pesticides applied to conventional foods “can be seriously dangerous for human health and the environment” whereas some studies suggest organic food is more frequently contaminated with natural toxins. The team developed a new method to rigorously test which set of potential hazards – the chemical toxins in conventional foods or the natural ones in organic food – pose the greater risk. The method works by comparing the impact of conventional and organic diets fed to rats on highly sensitive markers of cell responses to toxins consumed through food, in this case a diet composed of eight varieties of conventional and organic wheat. Two markers were studied. One involves the degree of proliferation in lymphocytes found in the intestine and in the spleen. The second is based on the short-term response of the liver to the presence of toxins ingested via food.

Stress, disease, and hunger are among many factors that can impair an animal's ability to detoxify or otherwise overcome exposure to toxins. The team decided to study how protein energy malnutrition (PEM) impacted the animals' response to toxins in the diet, so the rats were divided into a well-nourished group (WN) and a PEM group and fed the conventional or organic wheat for 30 days. The eight varieties of conventional and organic wheat were grown under carefully controlled conditions and were mixed in equal parts in preparing the rations fed to the experimental animals. The scientists then analyzed lymphocyte proliferation in the two groups of rats. They did this through the use of a cell culture medium composed of either fetal calf serum (FCS) or the rat's own serum (RS). They stimulated rat lymphocyte cells in each culture medium with a chemical known to trigger cell division in order to mimic the proliferative response. They found no differences in the proliferative response of lymphocytes cultured with FCS in rats fed organic versus conventional wheat, under either well-fed or PEM conditions. The proliferative response of lymphocytes cultured with the rat's own serum, however, was depressed in PEM rats on conventional feed compared with the animals fed organic wheat. This effect was thought to be due to contaminants other than mycotoxins in the conventionally grown wheat.

The results showed that under the conditions of this study, conventionally grown wheat poses a higher risk for impaired lymphocyte function than wheat that is organically grown, at least, in animals under stress because of inadequate food intake. The authors highlight the fact that the organic wheat did have about 3-X higher levels of mycotoxins, suggesting that the toxic impacts of synthetic chemicals and/or other toxins in the conventional wheat elicited a greater biological response than the mycotoxins in the organic wheat. The development of this novel method to compare the impacts of different mixes and levels of toxins in food on an animal's immune system promises to accelerate progress in rigorously measuring and comparing risk levels following exposures to different combinations of toxins in food.

Alberto Finamore, Maria Serena Britti, Marianna Roselli, Diana Bellovino, Sancia Gaetani, and Elena Mengheri. “Novel Approach for Food Safety Evaluation. Results of a Pilot Experiment To

Evaluate Organic and Conventional Foods.” Journal of Agricultural and Food Chemistry, Volume 52, No. 24, December 1, 2004
www.organic-center.org/science.htm?articleid=51

UK: Food agency flags up new research opportunities

06/12/2004 - Driving research in the area of chemical contaminants, nutrition and microbiology the UK's food agency is calling for scientists to fulfill a batch of new research requirements. The London-based body announced it is looking to commission research or survey projects in a number of food related areas, including: data quality and improved methods of analysis; food authenticity; and radiological safety. The Food Standards Agency (FSA) uses findings from commissioned work both to develop its policies and to assess their effectiveness or to develop research where policy changes require new knowledge. See www.food.gov.uk for more information

UK: Organic farming better for wildlife

A joint English Nature and Royal Society for the Protection of Birds scientific review comparing evidence about wildlife on organic and equivalent non-organic farms has concluded that organic farms are better for wildlife. The review, published in the journal Biological Conservation, concludes that a wide range of wildlife including birds, bats, insects and wild flowers flourish on organic farms. The paper 'Does Organic Farming Benefit Biodiversity?' is available from http://www.english-nature.org.uk/news/news_photo/Organic%20farming%20paper.pdf

EU: Organic science networking

Europe creates an organic science network to improve the quality of organic food and farming research as this sector of the food market continues to soar in popularity in the European arena. The new ERA-NET initiative is designed to improve the co-operation and co-ordination of national research activities through networking, and the mutual opening up of national and regional research programmes. Although rapidly expanding, research in organic food and farming is still a relatively new feature of the European research landscape. As such, it is characterised by small research communities, often widely dispersed, both institutionally and geographically. The EU established the new international partnership, CORE Organic (coordination of European transnational research in organic food and farming), to address the fragmentation and to bring together government ministries, research councils and other research funders from 11 countries - Austria, Denmark, Finland, France, Germany, Italy, Norway, Sweden, Switzerland, the Netherlands and the UK.

Throughout its three year lifetime, participation in the €1.2 million initiative will remain open to any EU country that has a national research programme for organic food and farming. Current combined annual spending of the 11 countries represented in the ERA-NET scheme on organic research is about €60 million. The joint activities of the CORE Organic partners will revolve around the co-ordination and evaluation of existing research, the identification of future scientific priorities, and the sharing and integration of knowledge and information. The ultimate goal for the end of the project is the creation of a joint research programme among partner countries with a budget of at least €3 million per year, providing European authorities with the opportunity to launch research projects on a much larger scale than is currently possible.

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9. PROMOTION

EU: BIOFACH 2005 – Business opportunities

Small and middle sized german companies do have the possibility - from 24th until 27th of february 2005 at BioFach05 - to hold individual and preselected business meetings with potential import and export partners from Europe and especially Latin America. Within the framework of the EU-support-programme AL-Invest (América Latina) participating companies obtain the following central services: Organisation of individual and preselected business meetings by exchanging company profiles, professional translation- and team-support, internet- and catalogue-advertisement. Aim of the EU-support-programme AL-Invest is to offer a cost-saving platform for companies, which are interested in direct contacts with european and latinamerican countries. Participating countries from Latina America: Bolivia, Brazil, Chile, Paraguay, Uruguay. From Europe: Germany, Spain, France, Finland, Italy, Holland, England, Switzerland. More information eurocentro1@bolsamza.com.ar

UK: New internet organic information service for consumers

The British Soil Association launched a new Internet site at the beginning of November to provide consumers with information on nutritional matters and organic farming.

WhyOrganic.org is organized in the form of a food club, with membership costing 1 GBP (pound) a month, almost 18 EUR a year. Manufacturers are encouraged to print the Internet address on packages to enable their customers to obtain more information about products.

<http://www.whyoorganic.org>

US: Organic market to reach \$32.3 billion by 2009

The market for organic foods and beverages continues to grow at a rapid pace and is expected to generate sales of \$32.3 billion by 2009, according to "The U.S. Market for Organic Foods and Beverages," a new report by Elaine Lipson from market research publisher Packaged Facts.

Overall, the organic industry has been experiencing annual growth between 17 and 22 percent over the past few years, compared to just 2 to 3 percent growth in the conventional food industry. The report can be purchased directly from Packaged Facts at

<http://www.packagedfacts.com/pub/977845.html>

UK: Organic food sales increase 10% in last year

Sales of organic food in the UK have increased by over 10 per cent in the last year, according to figures released by the Soil Association, the UK's leading organisation promoting and certifying organic food. The Soil Association's Organic Food and Farming Report 2004 says retail sales of organic food are now worth £1.12 billion and growing by £2 million a week - the rate of growth is twice the rate of the general grocery market.

EU: organic growth slowing

The EU organic market reached around €10 billion in 2002, according to data from UK market analysts Organic Monitor, but growth has slowed in recent years: an increase of 8 per cent between 2001 and 2002 shrunk to an estimated 5 per cent between 2002 and 2003.

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10. POLITICS

EU: Scientists call for change in direction away from GM food

A group of independent scientists, together with politicians and farm leaders, have called on the European Commission to abandon its drive for GM crops and redirect its energies to non-GM sustainable agriculture. Briefing MEPs in Brussels, Dr Mae-Wan Ho, director of the Institute of Science in Society, said the tide of scientific evidence was turning against GM technology.

"When genetic engineering started in the mid 1970s, scientists thought the genome was static and genes determined the characteristics of organisms in linear casual chains, " she told the MEPs. The briefing was co-organised by the Independent Science Panel, a group of 26 scientists, who used the meeting to relaunch their report, *The Case for a GM-Free Sustainable World*.

US: Nearly half of all food wasted

America has been long been the poster child for the "throw-away society" and researchers have known for years about the volumes of food Americans toss into the trash. Only recently, though, has that been quantified as a percentage of what is produced. A new study from the University of Arizona in Tucson indicates that 40 to 50 percent of all food ready for harvest never gets eaten. Timothy W. Jones, an anthropologist at the UA Bureau of Applied Research in Anthropology, has spent the last 10 years measuring food loss, including the last eight under a grant from the U.S. Department of Agriculture. Jones started in the farms and orchards, went on through the warehouses, retail outlets and dining rooms, and to landfills. What he found was that not only is edible food discarded that could feed people who need it, but the rate of loss, even partially corrected, could save U.S. consumers and corporations tens of billions of dollars each year. Jones says these losses also can be framed in terms of environmental degradation and national security.

Jones' research evolved from and builds on earlier work done at the University of Arizona. Archaeologists there began measuring garbage in the 1970s to see what was being thrown away and discovered that people were not fully aware of what they were using and discarding. Those earlier studies evolved into more sophisticated research using contemporary archaeology and ethnography to understand not only the path food travels from farms and orchards to landfills, but also the culture and psychology behind the process.

A certain amount of waste in the food stream simply can't be helped. Little can be done, for instance, about weather and crop deterioration. The apple industry, for instance, loses on average about 12 percent of its crop on the way to market.

On average, households waste 14 percent of their food purchases. Fifteen percent of that includes products still within their expiration date but never opened. Jones estimates an average family of four currently tosses out \$590 per year, just in meat, fruits, vegetables and grain products. Jones says there are three simple ways most people can significantly reduce their own food waste. One is careful purchase planning: devise menus and make up grocery lists accordingly. Another is knowing what lurks in the refrigerator and pantry that needs to be used while it is still useable.

And understand that many kinds of food can be refrigerated or frozen and eaten later.

Nationwide, he says, household food waste alone adds up to \$43 billion, making it a serious economic problem. (In addition to farms and households, Jones also is currently researching retail food waste, again a sector where annual losses run in the tens of billions of dollars.)

Cutting food waste would also go a long way toward reducing serious environmental problems.

Jones estimates that reducing food waste by half could reduce adverse environmental impacts by 25 percent through reduced landfill use, soil depletion and applications of fertilizers, pesticides and herbicides.

Contact Information: Timothy W. Jones, Ph.D. twj@u.arizona.edu

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