

Welcome to the first bumper edition of FQH News.

Quote of the month **“Let's be more honest about the quality of food on our plates – and how much it costs to produce. Consumers should be helped to understand that they can buy good food or cheap food but not good, cheap food.”** UK
Farmers Weekly editorial May 2003

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PESTICIDES

Belgium: breast cancer and pesticides

A new link has been found between breast cancer and pesticides. Dr Charles Charlier, a Belgian toxicologist, says in the journal *Occupational and Environmental Medicine* that women diagnosed with breast cancer are more than five times more likely to have residues of the pesticide DDT, an organochlorine, and nine times more likely to have residues of HCB, hexachlorobenzene, in their blood than the control group. DDT was banned in most developed countries following a lead by America in 1972 but research has shown that it can remain active in tissues for 50 years. HCB continues to be used. Dr Charlier has called for more research into how humans might be exposed to organochlorines, particularly by eating foods that have been treated with pesticides. SA 24/4

UK: High methyl bromide levels in lettuce

One in seven lettuces grown in the UK has more than the approved limits of methyl bromide, a pesticide, according to the Pesticide Safety Directorate. Their survey found that some growers had been spraying produce either with prohibited pesticides or excess fungicide. SA 16/5

Hawaii: Health benefits of fruit compromised

A correlation between high fruit and fruit drink consumption and risk of Parkinson's disease has been found by researchers in Honolulu, believed to be due to plant borne toxins, pesticides or herbicides. The study, presented at the American Academy of Neurology annual meeting in Honolulu, April 2003, is described as longitudinal, in which risk factor data was collected before onset of Parkinson's among more than 8,000 study subjects. Incidence of Parkinson's cases was noted over 34 years of observation.

According to the researchers, results of the Honolulu study showed that increased fruit and fruit drink consumption predicted an increased Parkinson's risk, after adjusting for other known risk factors. "*We speculate that this increased risk may be due to plant borne toxins, pesticides or herbicides, rather than the fruit itself,*" notes study author Andrew Grandinetti, PhD, of the Pacific Biomedical Research Center, University of Hawaii and Manoa. "*High fruit intake is still an important protective factor against many chronic diseases. However, these findings suggest that further research into the role of food borne toxins may provide clarity as well as insight into the etiology and prevention of Parkinson's.*"

US: Pesticides linked with prostate cancer

Farmers who use certain pesticides seem to have a high risk of prostate cancer, U.S. government researchers said yesterday. The researchers, who published their study in the American Journal of Epidemiology, confirmed other findings that show farmers have an unusually high risk of prostate cancer. "Associations between pesticide use and prostate cancer risk among the farm population have been seen in previous studies; farming is the most consistent occupational risk factor for prostate cancer," Michael Alavanja of the National Cancer Institute, who helped lead the study, said in a statement.

Researchers at NCI and at the National Institute of Environmental Health Sciences and the Environmental Protection Agency studied 55,332 farmers or nursery workers who worked with pesticides. Between 1993 and 1999, 566 new prostate cancers developed among the men, compared to 495 that would normally be expected in Iowa and North Carolina, the two states studied.

The risk of developing prostate cancer was 14 percent greater for the pesticide applicators compared to the general population. One pesticide, methyl bromide, increased the risk of prostate cancer in all men. Six others raised the risk in men with a family history of prostate cancer. They are chlorpyrifos, coumaphos, fonofos, phorate, permethrin, and butylate. More than 220,000 U.S. men will be diagnosed with prostate cancer this year, according to the American Cancer Society, and 30,000 will die of it.

Reference: Alavanja MC et al. (2003) Use of agricultural pesticides and prostate cancer risk in the agricultural health study cohort, Am J Epidemiol.157(9):800-14

ANTIBIOTICS

Denmark: Antibiotics banned as growth promoters

The complete ban on the use of antibiotics as growth promoters on Danish farms has not led to increases on food-poisoning bacteria, such as Salmonella and Campylobacter, research from the Danish Veterinary Institute in Copenhagen has found. The Danish experience is seen as a test case for an impending EU ban. (New Scientist) SA2/5

UK: Minister admits use of farms drugs could be illegal

The way in which some drugs are being used on poultry farms could be illegal, according to Margaret Beckett, the Secretary of State for Agriculture who has written to the Soil Association about the issue. It is estimated by the Soil Association that the vast majority of the chicken sold in the UK may be affected. Antibiotic growth promoters have been used for many years to help animals grow at unnaturally fast rates on intensive farms. However, most UK chicken producers very publicly agreed to discontinue their use three years ago, but have now quietly gone back to them in order to keep down costs. They claim they are needed to control disease, but using these drugs in this way is not permitted in the EU, since they have never been evaluated for safety as veterinary medicines.

Antibiotic growth promoters are set to be banned in Europe in 2006 due to concern about antibiotic resistant superbugs passing from animals to humans, but corrected government figures show British producers are still heavily reliant on them. Sales have fallen by just 6% in four years – not 74% as previously claimed by the Government - while the use of other closely related drugs under veterinary prescription has gone up dramatically. "It is very unfortunate that the intensive poultry industry is trying to deceive the public in this way and not preparing for the 2006 deadline," says Richard Young, the Soil Association's advisor on antibiotics. "We welcome Mrs Beckett's agreement to take action on the illegal use of growth promoters, but she has presided over a period of increased drug use on farms and it is clear that her department is not in control of the situation. The Government must

provide a stronger lead on this issue and give farmers more guidance and support to switch to methods of rearing animals that allow drug use to be reduced." For enquiries contact Richard Young ryoung@soilassociation.org

ADDITIVES

UK: FSA acknowledges risk of harm from food additive

Parents should limit their children's consumption of diluted drink and squash containing the sweetener cyclamate, the Food Standards Agency said yesterday. Laboratory tests suggest the sweetener could affect fertility, particularly in boys. It is banned under organic standards, as are all synthetic sweeteners.

UK: Food additives affect learning and behaviour

A UK current affairs TV program, *Tonight with Trevor McDonald* (Monday 28 April 2003), has broadcast a programme on how additives made identical twins 'non-identical'. The five-year-old twin boys from Cheshire scored identical marks in an IQ test prior to cutting out E numbers and additives, but afterwards, the boy not allowed any additives for two weeks scored 15 per cent higher. This twin's behaviour also became less aggressive, he threw fewer tantrums and fidgeted less. Research by UK company Baby Organix's has shown that additives are hard to avoid, with colourings being found in 78 per cent of children's desserts, 42 per cent of milk shakes and 93 per cent of sweets. SA 28/4

US: Hydrogenated fats on trial – Oreo cookies

Hydrogenated oils are not permitted under organic standards and may represent an important difference in the healthiness of some organic and non-organic foods, such as cakes, biscuits and other prepared foods. The Oreo cookie, America's favourite biscuit, is now the target of a health lawsuit for containing hydrogenated fat. The lawsuit has been brought by British-born lawyer Stephen Joseph. Mr Joseph claims that 'trans fat' increases consumers exposure to 'bad' cholesterol that can lead to type-2 diabetes and heart disease, but that due to heavy lobbying by the food industry, there is no obligation to mention it on food labelling. According to a study last summer by the National Academy of Sciences, 'no amount of trans fat was safe' and the US government's Food and Drug Administration recommends that 'intake of trans fat should be as low as possible', although research into the exact health effects of trans fat is still preliminary. SA 13/5

GMOs

UK: Arpad Pusztai releases new findings

New findings supporting concerns that GM crops might damage human health were released by scientist Arpad Pusztai in May 2003 in a book called 'Food Safety'. The research warns that work carried out by biotech companies into the human health of GM food is inadequate and unsafe - pointing to technical defects in the way GM plants are created. Pusztai, previously a plant researcher at the Rowett Research Institute in Aberdeen, lost his job in 1998 after appearing on 'World in Action' condemning the use of GM crops – reporting that rats fed on GM potatoes had suffered gut lesions, retarded growth and other symptoms.

UK: Soil Association proposes GM testing policy

The UK Soil Association is proposing that all its licensees who sell organic animal feed be required to test all risk ingredients (maize, soya and oil seed rape) for GM contamination on delivery and the final feed before it leaves their premises. The Soil Association is currently consulting on the detailed protocols needed to implement the testing policy, and the timing of its introduction.

UK: Independent Science Panel report summarises current knowledge of GM hazards

The Independent Science Panel (ISP) is a panel of scientists from many disciplines, committed to the Promotion of Science for the Public Good. Launched in London in May 2003, the Independent Science Panel (ISP) is a panel of scientists from many disciplines, committed to

1. Promoting science for the public good, independent of commercial and other special interests, or of government control
2. Maintaining the highest standards of integrity and impartiality in science
3. Developing sciences that can help make the world sustainable, equitable, peaceful and life-enhancing for all its inhabitants

The Independent Science Panel (ISP) has released a report critical of GM food and crops because of potential risks to human health and the environment, while making the case that better ways are readily available to produce food sustainably. Based on more than 200 references to primary and secondary sources, *The Case for a GM-Free Sustainable World*, is a complete dossier of evidence on the known problems and hazards of GM crops as well as the manifold benefits of sustainable agriculture. Genetically modified crops fail to result in significant reductions in the use of pesticides and are "a disaster waiting to happen". The panel says that GM crops are unreliable and unstable, and that sustainable farming based on organic principles would be by far the better route. Dr Mae-Wan Ho, co-founder and Director of the Institute of Science in Society, is quoted: "There is a powerful case for banning GM and instead using sustainable crops. We have looked at the research into environmental, health and economic impacts in our work and have provided evidence to Tony Blair. The bottom line is that we believe GM experiments should be confined to laboratories." A summary is available at <http://www.indsp.org/ISPreportSummary.php> where the full report is downloadable. Email: info@indsp.org

US: technological alternative to GM proposed

Low-saturated fat foods, enhanced flavours, foods without allergens – all this is possible without any tampering of DNA material. US company Anawah has received several million dollars to support its work that combines molecular biology and traditional plant breeding to develop improved food products. Unlike genetically modified foods, the products produced by Anawah contain no foreign DNA. The food and agricultural research and development company announced recently that it has secured \$6 million in financing from CMEA Ventures, Milepost Ventures and German-based BASF Venture Capital, the VC arm of the leading chemical company.

Founded in 2000, Anawah uses a proprietary screening process to discover plant characteristics and to deliver what it calls better tasting food. *"Anawah's proprietary process enables the development and introduction of higher-value whole food*

products for consumers more rapidly and cost-effectively than any other method available today," said Anawah's CEO Ken Hunt. The company has received \$10 million to date to use its process – an alternative to much-criticised transgenic techniques – that focuses on discovering superior and highly valuable traits in plants which could ultimately lead to improvements in food. See www.anawah.com

BSE

Canada: Mad Cow disease discovered in N. America

Mad cow disease was diagnosed in a cow in Canada in May, and United States health authorities immediately placed a ban on imports of beef, cattle and animal feed from Canada. Canadian authorities stressed that only one cow out of Canada's total cattle population of 3.6 million was found to be sick and there was no immediate evidence that the disease had spread among livestock or humans. But authorities had trouble explaining the source of the disease, or reassuring the public that there was no possibility of other cases. (New York Times – <http://www.nytimes.com>) The discovery of the first North American mad cow in a decade sheds light on a dirty secret of the American beef industry: The U.S. and Canada have yet to adopt the strictest mad-cow safety standards embraced in Europe and elsewhere. The practice of grinding up animals and feeding them to other animals --- believed to be the way mad-cow disease spread to humans in the first place --- still goes on in North America. As a result, the risk of mad cow finding its way into the U.S. may not be quite as low as the beef industry would like people to believe.

The US government and cattle industry have been quick to point out that the sick cow was in another country. But the U.S. and Canadian cattle industries are inextricably linked: The U.S. imported 1.7 million head of Canadian cattle last year. And the one billion pounds of Canadian beef we import account for about four percent of U.S. beef consumption. Also, while it's true that no mad cow has been found on U.S. soil, a similar disease has been found here in deer, elk and mink. How does mad cow spread? Mad cow likely is spread by an infectious agent called a prion, largely found in the brain and spinal cord of a diseased animal. The disease, bovine spongiform encephalopathy (BSE), bores holes into the animal's brain and is always fatal. In humans, the disease, known as variant Creutzfeldt-Jacob Disease or vCJD, is equally fatal. It's believed the disease spread because cattle were fed the recycled remains of infected sheep and cattle. But didn't the U.S. ban those feeding practices? Yes, but loopholes remain. The ban means cattle, sheep, goats and deer can't be given feed that contains protein made from similar animals. But these animals still can be turned into food for chickens, pigs and pets. Chicken and pigs can still be fed back to cattle. And bovine blood is still fed to calves. All this means it's still theoretically possible for a U.S. cow to consume infected material. In other countries, the practice of recycling animals for feed is banned altogether.

A scathing report from the General Accounting Office last year found the Food and Drug Administration had done a lousy job enforcing the limited ban. The office found cases where firms repeatedly failed to properly label feed that contained the banned protein. They sometimes continued to include the banned proteins in cattle feeds. Aren't the riskiest parts of the cow kept out of the food supply? Not always. Cow brains, spinal cords and central-nervous-system tissue pose the highest risk. Cow

brains, banned in Europe, still are sold in the U.S. In addition, cuts of meat with bone, such as a T-bone steak, are stripped directly from the animal's vertebrae and may contain portions of the spinal cord. Finally, some plants use high-pressure water and air or scraping methods to remove meat bits off a cow carcass. The recovered bits are added to hotdogs and low-quality hamburger. A USDA survey last year found more than one-third of products that contained this type of meat also contained some central-nervous-system tissue. In March, the USDA announced a stepped-up monitoring program aimed at keeping spinal-cord tissue out of meats. But critics want this meat-recovery method banned entirely, as it has been in Britain.

The U.S. tests far fewer animals than do many countries. Last year, 20,000 U.S. cattle were tested, three times more than the previous year. But in Europe, they test more than 20,000 animals a day. Japan tests every bovine that enters the food supply. U.S. officials note testing here far exceeds standards required for a country where mad cow has never been found. Critics contend it isn't enough. "You can't find what you're not looking hard enough for," says Michael Greger, BSE coordinator for the Organic Consumers Association.

NUTRIENT CONTENT

Italy: Pre-packed salad leaves may not be as nutritious as they look.

Research suggests a processing technique used to prolong shelf-life may remove vital nutrients. Tests showed salad bags did not boost antioxidant capability or vitamin C levels in the body like fresh lettuce. The study relates to pre-packed bags of salad leaves, such as lettuce, rocket and more unusual varieties. To keep the products fresh they undergo a process known as modified-atmosphere packaging. According to scientists in Italy, this may diminish antioxidant nutrients which protect against disease. Blood samples taken from 11 volunteers fed pre-packaged lettuce showed no increase in vitamin C levels and certain other nutrients. With fresh lettuce, however, vitamin C and other antioxidants rose significantly in the blood. The team, from the human nutrition unit at the National Research Institute for Food in Rome, says further research is needed to develop techniques "able to preserve the bioactive molecule content of plant food."

Reference: Serafini M et al, 2002, Effect of acute ingestion of fresh and stored lettuce (Lactuca sativa) on plasma total antioxidant capacity and antioxidant levels in human subjects. Br J Nutr 88(6), p615-23. Contact: serafini@inran.it

HEALTH & DIET

Japan: Scientists discover new vitamin

Phytonutrients are an important area of organic food quality research, with many being higher in organic produce than conventional comparisons. This piece highlights how we don't yet know all the nutrients in food that are necessary for human health:

Japanese scientists have discovered a new vitamin that plays an important role in fertility in mice and may have a similar function in humans. A research team led by Takafumi Kato confirmed that pyrroloquinoline quinone (PQQ), a substance discovered in 1979, can be categorized as a vitamin. Mice deprived of PQQ suffer

reduced fertility and roughened fur, the Tokyo-based Institute of Physical and Chemical Research said. Vitamins that have an important effect on mice usually act in the same way in humans, Kato said. "There are many possible factors behind the drop in fertility," Kato said. "We need more research to find out exactly what is happening to these mice and what would be the effect on humans."

PQQ is the first new vitamin to be discovered since 1948. Vitamins are defined as organic substances needed in small quantities for health and growth. They must be obtained from food as they cannot be produced by the body. The best source of PQQ discovered so far is "natto," a pungent Japanese dish of fermented soybeans. Other foods rich in the substance include parsley, green tea, green peppers, kiwi fruit and papaya. PQQ is believed to belong to the vitamin B group, and is not generally included in multi-vitamin tablets available on the market.

UK: Conventional food is safe, says new trade organisation

Conventional food is every bit as safe as organic food, according to a new trade organisation that aims to unite the food supply chain as a single voice. The planned group, Agricultural Industries Confederation (AIC), aims to unite the United Kingdom Agricultural Supply Trade Association (UKASTA), the Fertiliser Manufacturers Association and members of the Agrochemical Distributors Association in a bid to boost the sector's position within the food chain. Project manager David Lennan said it was about time conventional agriculture started putting its case forward to the public, instead of having the organic sector continually claiming the moral high ground on "safe" food. *"We don't want organic food being seen as the only safe food,"* he said. *"It is in all our interests to promote safe food, using inputs."* SA 8/4

Argentina: Storage quality of organic Swiss chard tested

An Argentinean group of researchers have shown that organic Swiss chard compares well with conventional chard in storage in both microbial and sensorial quality as well as storage life. No significant differences were found in the initial populations of yeast, moulds and psychrotrophic, mesophilic and lactic acid bacteria. The evolutions of the population of these microorganisms during storage were also similar for both chards. First-order kinetics after an induction period was found for the degradation of ascorbic acid. Although the rate constant (0.057/day) was similar for both chards, the induction period for organic chard (approx. 10 days) was longer than for conventional chard (approx. 3 days). No significant differences were found between the water and chlorophyll contents and in pH and titratable acidity of both chards. Sensorial analysis showed that organically produced chard retained turgidity, colour and brightness longer than the conventionally produced chard.

Reference: Moreira, M. del R., Roura, S. I. and Del Valle, C. E. (2003) Quality of Swiss chard produced by conventional and organic methods. *Lebensmittel-Wissenschaft und -Technologie* 36(1) 135-141. Contact email: cdvalle@fi.mdp.edu.ar

Austria: Frozen vegetables often healthier than fresh

A new study from the Austrian Consumers Association has claimed that frozen vegetables are often healthier than imported 'fresh' vegetables sold in supermarkets out of season. Researchers found that the vitamin content of frozen vegetables was significantly higher than fresh vegetables imported from Europe. The fresh vegetables

tested by the Austrian researchers had higher levels of lead, cadmium and pesticides. [Non-organic] fresh vegetables grown out of season are in some cases so laden with chemicals it would be healthier to go for the frozen versions. Some winter crops - including broccoli - test up to seven times higher for nitrates than their frozen equivalents grown in the summer, says the Austrian consumer's association. SA 8/4

UK/Japan: Stick with the veggies

A team of UK and Japanese researchers confirm previous findings that fruit and vegetables can reduce the risk of cancer mortality. The researchers studied the association between green-yellow vegetables and fruit consumption and risk of cancer death in atomic-bomb survivors in Hiroshima and Nagasaki, Japan. More than 38,500 men and women completed a dietary questionnaire from 1980-1981. By March 1998, 3136 cancer deaths were identified among the group. The researchers report in the British Journal of Cancer that daily or almost daily fruit consumption was associated with a significant 12 per cent reduction in total cancer mortality. Daily or almost daily intake of green-yellow vegetables also lowered risk of death from cancer, by a more marginal 8 per cent. Recent studies have also found that children who eat fruit and vegetables regularly are less likely to develop cancer in later years.

Studying different types of fruit and vegetables, they report that those eating green-yellow vegetables regularly were significantly less likely to die from liver cancer mortality, while fruit consumption was associated with a significantly reduced risk of death from stomach cancer and lung cancer mortality. Both green-yellow vegetables and fruit seemed to reduce oesophageal cancer, but results for these associations were not statistically significant, report the team. They added that neither green-yellow vegetables nor fruit consumption was associated with colorectal cancer or breast cancer mortality. *"These results support the evidence that daily consumption of fruit and vegetables reduces the risk of total cancer, and specifically cancers of the stomach, liver, and lung,"* conclude the authors

RESEARCH

UK: Organic Centre Wales sets out new agenda

Organic Centre Wales has outlined new priorities for the next three years that will see it become more active in areas of strategic policy, market development and public education, following the announcement that the National Assembly of Wales is to provide £720,000 to fund the Centre for three years from mid 2003. Based at the University of Wales, Aberystwyth's Institute of Rural Studies and run jointly with ADAS, IGER, Elm Farm Research Centre and the Soil Association, Organic Centre Wales was launched in July 2000 following the award of a £700,000 contract by the National Assembly for Wales to provide advice and support for farmers wishing to convert from conventional to organic methods of agriculture.

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US: Center for Organic Education and Promotion officially launched

"Everything points to organic being better, but now we need to prove it scientifically and communicate it effectively -- and that is the mission of The Center," announced Theresa Marquez, President of The Center for Organic Education and Promotion officially launched at the All Things Organic conference and trade show in Austin, Texas in May. The Center, affiliated with the Organic Trade Association, will focus on scientific research that supports organic benefit claims to provide a scientific basis for the environmental, health and taste benefits of organic agriculture and products. Its research efforts will study whether organic food and fibre products have better quality and whether organic food has unique taste and nutritional benefits. It will seek to discover whether organic improves health and better protects children. Additionally, efforts will investigate the environmental benefits of organic agriculture. The Center will track, analyse and communicate the results of past and current research, and prioritise future research, develop research partnerships, guide commissioned studies and evaluate the results. The Center will pursue consumer research and fund research that creates new areas of study regarding organic benefits. "In addition to its efforts to prove the organic benefits through scientific research, The Center will work to communicate those benefits to the widest possible audience. The result will be a rapid rise in public awareness about organic and increased consumer demand for organic," said Marquez. The Center will serve as a clearinghouse for organic research. Communications will include education, promotion and a wide variety of media-related initiatives.

A Scientific Advisory Board comprised of knowledgeable experts from the United States and the international community is being put together to provide assistance and counsel for the research and interpretive activities of The Center, it was announced by Marquez. "We welcome all suggestions for people who can make a contribution to the scientific core of our mission," added Jesse Singerman, Interim Executive Director for The Center.

The Center for Organic Education and Promotion communicates credible, peer-reviewed organic benefits to society, resulting in the conversion of agriculture to organic methods, improved health for the earth and its inhabitants, and greater awareness and demand for organic products. If you'd like to be involved in The Center or support its work by joining the Founders Circle, email Jesse Singerman on jesse.singerman@mchsi.com or send donations to COEP, PO Box 547, Greenfield, MA 01302, USA.

US: OCIA International Restructuring Organization, Adding Education and Research Services

The American-based Organic Crop Improvement Association (OCIA) International is restructuring its organization in order to provide expanded services to its membership and the global organic industry. "With the organic industry growing at such a rapid pace, there is a decided need for not only quality certification services, but also education, research and promotional support," said Debbie Miller, OCIA International President. "By restructuring our organization, OCIA will have the flexibility it needs to meet the needs of this thriving industry."

Adopted by the OCIA membership at the recent Annual General Membership Meeting, the restructuring decision creates three distinct OCIA bodies: OCIA International, Inc., OCIA International Custom Certification Services, Inc. and the OCIA Research & Education, Inc. The third body, the OCIA Research and Education, Inc. will be a charitable organization whose activities will focus on crop improvement, public relations, education and research. This organization may also participate in lobbying and other activities not allowed under the other two OCIA bodies. For more information contact OCIA International at 402-477-2323 or info@ocia.org.