

Research roundup

Evidence continues to confirm benefits of organic food

Scientific support for the health claims made for organic food continues to mount, confirming organic food as safer, more nutritious, and better for you. BFA nutritionist SHANE HEATON surveys some choice examples of recent research from around the world.

AUSTRALIA: BREAST CANCER CLUSTER LINKED TO CROP CHEMICALS

Monash University PhD student Dr Narges Khanjani has revealed a possible link between the use of organochlorine pesticides and breast cancer in Victoria's north-east. Her study shows up to 48,000 women in the Ovens and Murray Shire could have been exposed to the chemicals, which were mainly used in the production of tobacco crops.

The chemicals have contaminated the food chain and have been unknowingly consumed in produce such as meat, milk and eggs. Once organochlorines are absorbed into the body they are not easily secreted or broken down and are stored in fat tissue such as breast fat.

The study was based on samples of contaminated breast milk collected in the 1990s by Associate Professor Malcolm Sim, from Monash University's Department of Epidemiology and Preventive Medicine, and data provided by the Cancer Council of Victoria.

"We used the 800 breast milk samples to identify areas of high contamination in Victoria and compared it to the cancer data. We found that the Ovens and Murray Shire was the most highly contaminated region as it showed the highest incidences of breast cancer compared with any other area in Victoria," Dr Khanjani said.

Most organochlorines were phased out in the late 1980s and early 1990s but some chemicals in this group, including Atrazine and Triazine, are still used today. "Chemicals like DDT have a half life of about 10 years so we would expect to see a reduction in the levels of exposure in the north-east over time and young people won't have the same degree of exposure to these organochlorines," Dr Khanjani said.

This work reinforces Belgian researcher Dr Charles Charlier's findings last year that women with breast cancer were six times more likely to have DDT or hexachlorobenzene in their blood than women who don't have breast cancer, and the higher their levels, the larger their tumors.

Similar reports have come from Tasmania, and the Australian Medical Association's (AMA) public health committee is currently considering a report from its Tasmanian branch detailing a possible link between chemical exposure and cancer rates. The report reveals a six-fold increase in endocrine cancer since 1995 and a sharp increase in cancer of the digestive tract over the past five years.

UNITED STATES: ORGANIC FARMING TECHNIQUES CAN INCREASE ANTIOXIDANT LEVELS

The Organic Center's second State of Science Review (SSR) concludes that organic farming methods have the potential to elevate average antioxidant levels, especially in fresh produce.

Charles Benbrook PhD compiled and analysed existing scientific information for his report, *Elevating Antioxidant Levels Through Organic Farming and Food Processing*. The report reveals that on average, antioxidant levels were about 30% higher in organic food compared to conventional food grown under the same conditions. In general, factors that impose stress on plants tend to trigger a plant's innate defence mechanisms and these mechanisms are driven by and/or entail the synthesis of antioxidants.

Studies reviewed in this SSR provide evidence that several core practices on organic fruit and vegetable farms such as use of compost, cover crops, and slow release forms of nitrogen, can increase antioxidant and polyphenol content compared to conventional practices that depend on commercial fertilisers and pesticides.

The prohibition of pesticides in organic farming practices provides additional benefits to consumers who choose organic. Harvesting fruits and vegetables at optimal ripeness and consuming them in less-processed forms, without



Jackie O'Reilly of O'Reilly's Orchard, organic stone fruit orchard.

removing skins or peels, will preserve a greater portion of their antioxidants, says Benbrook. The outer layers of fruits and vegetables generally contain the highest concentrations of antioxidants, but many consumers peel their conventionally-grown fruits and vegetables to help reduce levels of pesticide residues. An executive summary and the entire report can be found at:

< www.organic-center.org/science.htm?articleid=54 >

DENMARK: RATS 'HEALTHIER' ON ORGANIC DIET

Rats fed on organic food are substantially healthier than those that eat conventional food, scientists have discovered. The rats fed on organic fruit and vegetables were slimmer, slept better and had stronger immune systems, according to Newcastle University's Dr Kirsten Brandt and the Danish Institute of Agricultural Sciences.

The experiment was carried out on 24 rats, which were split into two groups. Each group was fed potatoes, carrots, peas, green kale, apples and rapeseed oil. In each case the produce had been grown using different means – one group ate only organic food; the second ate conventionally-grown produce with high levels of pesticide and fertiliser residue.

The scientists found that the rats fed organically-produced food were measurably healthier, in that they slept better, had stronger immune systems and were less obese. Dr Brandt said: "The difference was so big that it is very unlikely to be random. But we don't know if they slept better because they were less stressed and had a better immune system. However,

No food has higher amounts of beneficial minerals, essential amino acids and vitamins than organic food.

we can say the reason why the rats had different health was clearly due to the fact that there was a different growing method and this was enough for the result." (*Paper not yet published.*)

UNITED KINGDOM: APPROVED PROMOTION STATEMENTS FOR ORGANIC FOOD

Confirmation that the research proving the health benefits of organic food is beginning to reach a critical mass comes from the UK this month, where the Committee on Advertising Practice has approved 22 statements about the benefits of organic food. They can be used by companies in adverts, on leaflets, and as part of on-pack sales promotions. The statements cover several areas where organic benefits are clear, such as animal welfare, nutrient content, avoidance of pesticides, additives, antibiotics and trans fats, and environmental benefits. Here are just three choice examples, and the full list can be found at www.soilassociation.org

"No food has higher amounts of beneficial minerals, essential amino acids and vitamins than organic food."

"The best method of reducing exposure to potentially harmful pesticides would be to consume organically-grown food, where their use is avoided."

"Consumption of organic produce represents a relatively simple means for parents to reduce their children's pesticide exposure." ■

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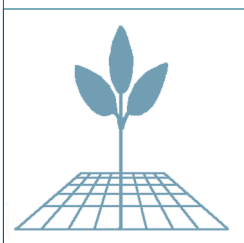
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