



Breaking News on Food & Beverage Development - Europe

Kiwis could protect DNA from damage, says pilot study

By Stephen Daniells, 26-Jul-2006

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Two to three kiwis a day could keep cancer at bay by helping to repair damaged DNA, suggests a pilot study from the home of the fruit.

A pilot study from New Zealand has reported that a daily "prescribed" kiwifruit, in tandem with dietary advice and improved physical activity, led to a significant increase in repair of damaged DNA.

"Prescription" of daily kiwifruit may provide a sustainable population intervention that could reduce some of the risk factors associated with cancer," wrote lead author Elaine Rush from AUT University in Auckland.

Studies from the same university have reported that kiwifruit have laxative effects and could help combat serious cases of constipation, while studies from the University of Oslo have reported that two to three kiwifruit a day significantly reduced blood clotting in human volunteers and could offer protection from strokes and deep vein thrombosis.

The new randomised controlled trial recruited 12 healthy volunteers (six men, six women, average age 43, average BMI 27.5 kg per sq. m). For the first three weeks the subjects were left to live 'normally' with no dietary intervention. After week 3, all subjects were given lifestyle advice, including eating habits and physical activity.

After week 6, the subjects were randomly assigned to either the control (no kiwifruit) group, or to receive a daily dose of kiwifruit equivalent to one kiwi for every 30 kg of body weight.

Blood samples were taken at the start and at subsequent three week intervals to measure blood lipid levels (cholesterol, triglycerides) and to assess DNA damage markers.

No significant changes were observed for weight, blood pressure, or blood cholesterol and triglyceride levels for either of the groups.

This last result is at odds with the Oslo research that reported a drop of 15 per cent for triglyceride levels, although the intervention times are not the same, which limits the ability to directly compare.

Interestingly, when the cells of the subjects were challenged with peroxide (to induce damage) it was found that cells of people supplemented with kiwis *"showed an improved ability of the DNA to repair itself after the peroxide challenge."*

This protective effect was also found to persist for up to 24 hours.

No mechanism is proposed by the researchers but they do hint towards the antioxidant content of the fruit that could protect against the oxidising challenge of the peroxide, which in turn reduce the presence of damaged DNA and potential subsequent cancer formation.

The fruit are a rich source of polyphenols, vitamins C and E, and folate.

"We have provided the evidence that would endorse the provision of free or easily accessible fruit and vegetables to populations at risk because of poor diet; children, for example, should be beneficial in the long-term prevention of cancer and other "lifestyle" diseases," concluded the researchers.

New Zealand's largest kiwi supply company, Seeka Kiwifruit Industries, reportedly handles more than 27 per cent of NZ's crop, which totals about 23 million trays of Green, Gold and Organic fruit. The company recently announced it was extending its business portfolio into the nutraceutical world by marketing a kiwi supplement.

The company are aiming to market the supplement on the strength of its laxative benefits.

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