Healthy cereal is alive - whole grains are anti-oxidant foods

Australians should be consuming at least 40 grams and ideally 50 grams of whole grains daily according to University of Wollongong (UOW) researcher, Professor Stephen Lillioja, who has published a scientific report suggesting that whole grains are just as important as fruit and vegetables in protecting the body against chronic disease.

Professor Lillioja, who works as a researcher and clinical investigator at the Illawarra Health and Medical Research Institute (IHMRI), has been studying the health benefits of whole grains for several years. In this study he collaborated with a team of UOW and international nutrition researchers and analysed the results of 11 major prospective studies on the benefits of consuming whole grains.

“These large studies have followed the life histories and habits of over 300,000 people; some for more than 20 years, to see what habits lead to future disease. They consistently show that eating more whole grain food reduces your chances of developing type 2 diabetes, heart disease, hypertension, bowel cancer and inflammation and that people who eat more whole grains are less likely to be obese,” explains Professor Lillioja

While there is clear evidence on the benefits of whole grains, Professor Lillioja believes that, based on experience in other developed countries, up to 80 per cent of Australians are not consuming enough whole grains, putting them at an increased risk of developing diabetes and other diseases.

“No only is white flour and white rice more palatable, but in many consumer’s minds the fibre, or bran, in whole grain food is simply the woody stuff that keeps the colon healthy and not worth bothering with. This is a serious misunderstanding,” warns Professor Lillioja.

“When we consume whole grains, and bran in particular, we not only get fibre but also some highly specialised plant cells - the aleurone. Whereas most of the grain cells are dead, these aleurone cells are alive. They have the job of supplying the chemical machinery needed for a grain to germinate and grow a new plant.

“Because these cells are plant ‘baby food’ they are stuffed full of vitamins and minerals. In fact, they contain so many anti-oxidants that whole grains match fruit and vegetables as anti-oxidant foods, which seems to be a well kept secret. It is possible this anti-oxidant and mineral content also means whole grain intake is a better predictor of future high blood pressure than is salt intake.”

When whole grains are processed to white flour, or brown rice is processed to white rice, these vitamins, minerals and anti-oxidants are discarded. It is not what we eat so much as what we throw away that is doing us harm.”
He cautions that consumers need to be clear about what constitutes whole grain. “‘Whole’ in this context means the presence of grain starch, bran and germ in the amounts found in a grain kernel when harvested. Rolled oats is whole grain even though broken up, while jasmine rice and cornflakes are not whole grain because the bran is gone.”

In this report Professor Lillioja has, for the first time, provided a direct analysis of multiple whole grain studies, which demonstrate that we should consume at least 40 grams and preferably 50 grams of whole grains daily, “the equivalent of around a bowl and a half of cooked rolled oats, three to four weet-bix or 10 vita-weats”.

Why whole grains reduce so many diseases is not exactly known, but whole grains are a rich supply of zinc, which may help pancreas function; of magnesium which is important in insulin action and blood pressure regulation; and anti-oxidants that may protect both the pancreas and blood vessels.

“Increasing whole grain intake shouldn’t be that difficult; especially since whole grains are cheap, easily stored and readily obtained,” adds Professor Lillioja.

“The available evidence suggests that enormous personal health and public financial benefits would be gained by increasing whole grain consumption in Australia because diabetes, heart disease, hypertension, bowel cancer and obesity are rife in our community and here is good evidence of something we can do about it.”

The report, entitled, ‘Whole grains, type 2 diabetes, coronary heart disease and hypertension: links to the aleurone preferred over indigestible fiber’ is published online ahead of print in the journal, BioFactors.

The co-authors were Andrew L. Neal (Rothamsted Research, UK), Professor Linda Tapsell (IHMRI/UOW) and David R. Jacobs, Jr., (University of Minnesota, US).

Photo caption: Professor Lillioja says that aleurone cells are so rich in anti-oxidants they glow under ultra-violet light. These glowing grain cells were photographed at Rothamsted Experimental Station; England’s premier agricultural research institute.

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About IHMRI
The Illawarra Health and Medical Research Institute (IHMRI) is a joint initiative of the University of Wollongong and Illawarra Shoalhaven Local Health District.

IHMRI’s goal is to foster, support and grow health and medical research in the Illawarra by connecting and supporting academic and clinician researchers around research problems of relevance to the region and the world. IHMRI provides research leadership, coordination, infrastructure and facilities to more than 500 academic and clinical researchers throughout the region.