

Whole grain cereals are recommended as they're rich in essential nutrients, especially carbohydrates, fibre, vitamins, minerals and fatty acids.

# Whole grains are healthier



**Nutri Scene**

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**T**HE nutritional value of whole grains has long been recognised. In recent years, several national dietary guidelines, including the Malaysian Dietary Guidelines 2010, have highlighted the importance of consuming whole grains.

However, the awareness on the importance of whole grain foods and their consumption is still extremely low amongst Malaysians.

## Scientific update on whole grains

In cognisance of the importance of the subject, the International Life Sciences Institute (ILSI) Southeast Asia Region recently organised a seminar on whole grains in Kuala Lumpur.

Co-organised by the Nutrition Society of Malaysia, the seminar aimed to provide an update on current understanding of whole grains, physiological effects on human health, food sources and consumption level, dietary guidance, and regulatory considerations.

The seminar also aimed to provide a platform for discussion among all stakeholders on aspects related to promoting increased consumption of whole grains, including consumer education and promotion, and industry innovations.

## What are whole grain cereals

Whole grains include the entire grain seed, usually called the kernel, after the removal of inedible parts such as the hull and husk. The kernel consists of three components—the bran, germ, and endosperm. If the kernel has been cracked, crushed, or flaked, then, to be called a “whole grain”, a food must retain the same relative proportions of these components as they exist in the intact grain.

Similarly, temporary separation of whole grain constituents during processing for later recombination is acceptable as long as the same relative proportions of the three components are retained.

Whole grains are consumed either as a single food (eg unpolished rice) or as an ingredient in foods (eg in cereals, breads, and crackers). Some examples of whole grain ingredients include whole wheat, brown or unpolished rice, whole-grain barley, oatmeal and rolled oats.

The foods containing these whole grain ingredients are called whole grain foods.

## Whole grain cereals are healthier

Whole grains have a high content of carbohydrate and nutrients. The bran and germ are rich in dietary fibre; nutrients, eg several B vitamins (like thiamine, niacin, vitamin B6); minerals (like iron, zinc, magnesium and phosphorus); and beneficial phytochemicals (like phenolic compounds, phytoestrogens and plant sterols). The endosperm is rich in starch and is a good energy source.

During the grain-refining process, the bran and germ of the grain are removed and only the starchy inner part of the grain remains.

The grain is now termed as refined-grain product, eg refined or white rice, refined wheat flour. With the removal of the bran and germ, which contain the major amount of nutrients and dietary fibre, the nutritional value of the refined product is drastically reduced.

Numerous studies in different parts of the world have shown that whole grains consumption is beneficial in lowering the risk to various chronic diseases. These include overweight and obesity, hypertension, cardiovascular disease, diabetes and metabolic syn-



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drome, some cancers, and even total mortality.

A good amount of evidences have been accumulated to indicate that more whole grain intake is associated with lower body weight, lower total and LDL-cholesterol, lower blood pressure, improve glucose control and lowered insulin resistance, and decreased risk to colon and rectal cancers.

Most of the available evidence are from large scale observational studies.

## Dietary guidelines encourage consumption

Key messages and supporting statements in dietary guidelines from seven South-East Asian countries were examined for reference to consumption of cereals and cereal products. All these dietary guidelines reviewed have a specific key or supporting message or statement in the visual guides that recommend the consumption of rice and other cereal grains.

In most of these countries, rice is specifically mentioned as one of the cereals that should provide the most daily energy needs.

Reference to whole grains is only made in the key messages of dietary guidelines of Malaysia and Singapore. Both countries have clear key messages that encourage the consumption of whole grains and provide detailed information on nutritional benefits of whole grains.

Some reference is also made to whole grains or unpolished rice in the guidelines of Thailand. Dietary guidelines of Australia, Canada and the US have emphasised the importance of consuming more whole grain foods and provide detailed scientific rationale for their consumption.

## Regulatory considerations

A quick check on the supermarket shelves show that there are several whole grain products available. These include whole grain rice, *mee-hoon*, and various whole grain products, such as bread, biscuits and cereals.

Only some of these products have the amount or percentage of whole grains declared on the label. Several packs have explanations on the goodness of consuming whole grains, but few bear claims on health benefits.

Except for Singapore, there are no specific labeling requirements for whole grains or whole grain foods in the six other countries in the Southeast Asian region. There is no official

definition of whole grains or whole grain foods, or the requirement for declaring the amount of whole grains in a product that claims to be made from whole grains.

There is no requirement for minimum amount to be present in order to claim added or contains whole grains.

Singapore recently introduced a new regulation on whole grains. Products are not allowed to be labelled as wholegrain unless they comply with the definition, which is similar to that mentioned above. The percentage of wholegrain ingredients used must be indicated immediately after the term “whole-grain”.

There are no regulations in the region that provide for content claim on whole grains, eg high or rich in whole grains.

In several countries in the region, eg Malaysia, Indonesia, Singapore and Thailand, function claims are permitted for nutrients as well as other food components not traditionally recognised as nutrients. These countries have an approved list of such claims, but none of these are related to whole grains, except for Singapore.

Singapore food regulations have permitted the use of five nutrient/food specific disease risk reduction claims since 2009. One of these claims states: a healthy diet rich in whole grains, fruits and vegetables that contain dietary fibre, may reduce the risk of heart disease.

Nevertheless, most of the countries in ASEAN do provide for additional health claims to be made. Industry may apply for additional claims, including on whole grains, accompanied by scientific substantiation, which will be reviewed by a panel of experts appointed by the regulatory agency.

## Promoting consumption

The seminar has provided a platform for discussion on several areas related to whole grains, especially in relation to Malaysia. Updated information on whole grains, including health benefits, were shared with participants. The main discussions in the seminar were on promotion of whole grain consumption.

Since the Malaysian dietary guidelines have highlighted the importance of whole grains, promotion of its consumption needs to be further intensified.

Through several presentations and the panel discussions, there was general agreement that all stakeholders need to play a role

to play in helping consumers meet the recommended intake of whole grain foods. This includes health authorities, professional bodies, consumer bodies and the food industry. Several areas were recognised as important to be given attention.

It was recognised that data on whole grains consumption in the country need to be obtained. Methodologies for obtaining such data need to be refined to obtain accurate information.

Efforts to promote whole grain consumption must be continued to be given emphasis by nutritionists. Consumers need to be aware that their current intake of whole grains is extremely low.

This is not surprising as consumer understanding on the benefits and importance of whole grains is lacking.

It is essential to provide consumers with a good understanding of what whole grains are and their health benefits. The Health Ministry and the Nutrition Society of Malaysia have been highlighting the importance of whole grains consumption. These efforts need to be further intensified.

The food industry needs to play its role in making more whole grain foods and products available to consumers, at affordable prices. There is also a need to look into complaints by consumers that whole grain foods are not so palatable or tasty.

At the same time, appropriate regulations must be in place to facilitate the promotion and marketing of whole grain foods. For example, the definition, labelling requirements, minimum amount of whole grains, criteria for labelling and claims need to be clearly spelt out. Clarity on these issues would be beneficial to the food industry and consumers.

I certainly hope that this seminar has provided the necessary impetus for the promotion of whole grain consumption. All stakeholders will do their part in realising this objective.

For the consumer, I would certainly urge you to look out for whole grain versions of food products when out shopping next. Read the food label to find out. Consume more of unpolished rice and rice products; wholemeal or whole grain bread; whole wheat pasta; cereals and biscuits with whole wheat or oat added.

Do not be confused with high fibre products; they are not the same as whole grain products. The dietary guidelines recommend eating four to eight servings of cereals and products daily; aim to have half of that intake to be from whole grains.

Further information on the Malaysian Dietary Guidelines 2010 can be obtained from the Health Ministry website: [www.moh.gov.my](http://www.moh.gov.my). The Nutrition Society of Malaysia has also made available leaflets of these guidelines suitable for the public ([www.nutriweb.org.my](http://www.nutriweb.org.my)).

■ *NutriScene is a fortnightly column by Dr Tee E Siong, who pens his thoughts as a nutritionist with over 30 years of experience in the research and public health arena. For further information, e-mail [starhealth@thestar.com.my](mailto:starhealth@thestar.com.my). The information provided is for educational and communication purposes only and it should not be construed as personal medical advice. Information published in this article is not intended to replace, supplant or augment a consultation with a health professional regarding the reader's own medical care. The Star does not give any warranty on accuracy, completeness, functionality, usefulness or other assurances as to the content appearing in this column. The Star disclaims all responsibility for any losses, damage to property or personal injury suffered directly or indirectly from reliance on such information.*