



2016 Grains for Health Report

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The latest data on the nutritional profile of grain foods and their contribution to the Australian diet.



**Grains & Legumes
Nutrition
Council**

Cultivating Good Health

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Foreword

Scientific evidence continues to demonstrate the importance of core grain foods in providing essential nutrients and reducing the risk of disease. With such evidence, aiming to enjoy quality grain foods each day should be recognised by Australians as being fundamental to healthy eating.

However, Australian intakes fall well below levels associated with favourable nutrition and health outcomes. Research by the Grains & Legumes Nutrition Council indicates this is driven by the belief that eating bread and pasta leads to weight gain and a lack of understanding of the contribution of these foods to nutrition and health. Recent research commissioned by GLNC actually shows this is in fact not the case. Australian adults who ate more core grain foods had a similar waist circumference and body mass index to those who ate less core grain foods.

For the first time in Australia, the Grains for Health Report provides Australian data on the contribution of core grain foods to the diet and the weight status of Australians. Also included are the highlights of a comprehensive analysis of the nutrition credentials of the core grain foods currently available to Australians. The results highlight the essential role of grain foods in promoting the health, wellbeing and vitality of Australians.

I hope you find the data in the report interesting and useful.

Michelle Broom, Accredited Practising Dietitian
General Manager, Grains & Legumes Nutrition Council

Introduction

The Grains for Health Report highlights data from two studies undertaken by the Grains & Legumes Nutrition Council (GLNC) in 2015 – 2016.

ANALYSIS OF CORE GRAIN FOODS FROM THE NATIONAL NUTRITION AND PHYSICAL ACTIVITY SURVEY^(1,2)

In 2015, GLNC commissioned Nutrition Research Australia to conduct a secondary analysis of the 2011-2012 National Nutrition and Physical Activity Survey (NNPAS), which for the first time provides insights into the relationship between intake of core grain food serves, fibre intake and weight status of Australians adults. The NNPAS is based on a sample of 12,153 persons aged 2 years and over, and including 9,341 persons aged 19 years and over (adults) who undertook a 24-hour dietary recall on the day prior to the survey.

The study was conducted in two parts. The initial unadjusted analysis determined the number of serves of core grain foods eaten by Australian adults and profiled Australian adults based on their core grain food intakes, including average nutrient and fibre intakes, body mass index (BMI), waist circumference, and a range of other dietary, lifestyle and demographic characteristics.

Building on this initial unadjusted analysis, GLNC commissioned a further statistical analysis to comprehensively investigate the relationship between the core grain food intakes of Australian adults, their fibre intake and weight status. This statistical analysis took into account a range of factors that may have influenced fibre intakes or weight status including age, gender, energy intake, education, self-assessed health, diet status, socio-economic status, physical activity level, proportion of energy from discretionary foods, usual serves of fruit and vegetables and under-reporting of energy intake.

GLNC AUDIT OF CORE GRAIN FOODS ON SHELF⁽³⁾

GLNC conducted a systematic audit of grain foods on shelf in four different retail supermarkets in Sydney between October 2015 and February 2016. The audit collated on pack information for more than 1,890 grain foods including nutritional information, ingredients and use of claims. This comprehensive database of grain foods was used to assess the percentage of products which were a source of fibre, protein and whole grain, as well as the percentage of products which were below benchmarks for sodium and sugar.

Key Findings

SURVEY FINDINGS

Australian adults with the highest intakes of core grain foods, compared to those with the lowest core grain food intake⁽²⁾:

- Had higher fibre intakes
- Had a similar waist circumference
- Had no difference in body mass index



AUDIT FINDINGS

88%

Almost 9 of out of 10 breakfast cereals provided a source of fibre.

64%

Of rice and other grains provided a source of plant-protein.

59%

Of breakfast cereals provided over a third of your daily whole grain (48g) in just one serve.

45%

Almost half of plain crispbreads provided a source of fibre.

81%

Of white and wholemeal loaf breads provided a source of plant-based protein.

52%

More than half of plain rice cakes and corn cakes provided a source of whole grain.

Core Grain Foods: Linked with a Healthier Diet and Lifestyle Pattern

The secondary analysis of the National Nutrition and Physical Activity Survey (NNPAS) commissioned by GLNC, showed adults who ate more core grain foods had a healthier diet and lifestyle pattern compared to core grain food avoiders^(1, 2).



Adults who ate six or more serves of core grain foods, including breads, breakfast cereal, pasta, rice and noodles, had considerably higher fibre intakes as well as higher intakes of energy, iron, magnesium, zinc, iodine, thiamin, riboflavin, niacin, folate, and sodium. Despite higher energy intakes, these adults were no more likely to be overweight (see page 6 for details).

Eating six serves of grain food in a day is as easy as a bowl of breakfast cereal in the morning, a sandwich at lunch and a meal with a cup of cooked rice at dinner (see page 14 for more information).

Adults who ate six or more core grain food serves also had lower energy intake from discretionary foods, were more likely to rate their health as excellent and more physically active compared to adults who ate less than two serves.

CORE GRAINS AND FIBRE

Increasing core grain food intake was directly linked with increases in total fibre intake. In fact, adults who ate six or more serves of core grain foods had almost double the fibre intake of those who consumed less than two serves per day (see figure below).

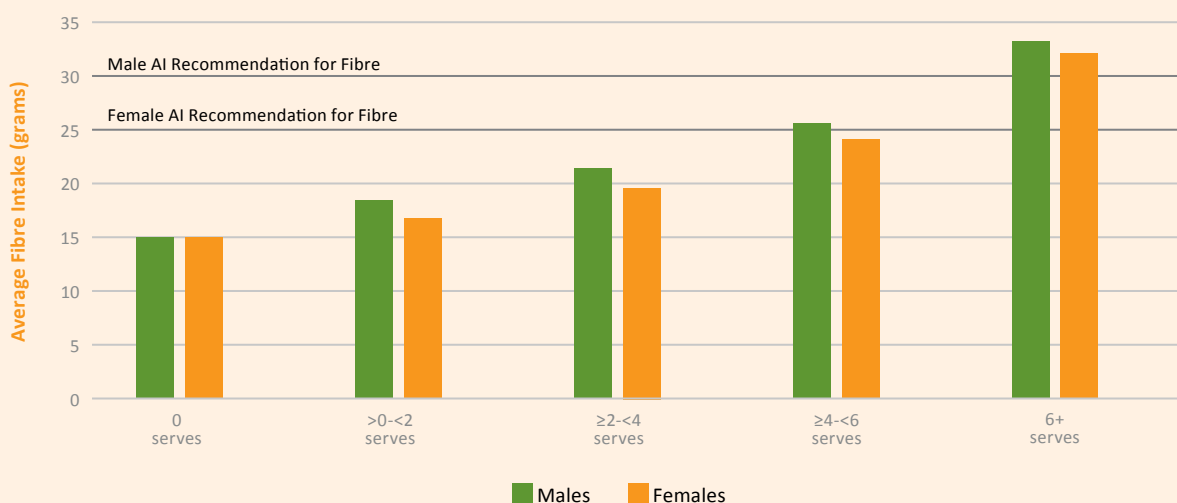
In an additional statistical analysis which controlled for a wide range of factors that may influence dietary fibre intakes (e.g. fruit and vegetable intake), core grain food intake remained a significant influencer of total fibre intake⁽²⁾.

The Fibre Knowledge Gap

Many Australians don't realise that grain foods are a source of fibre. The percentage of adults recognising different grains foods as a source of fibre in 2014 was as follows⁽⁴⁾:

- 37% for wholemeal bread
- 60% for bran-based breakfast cereal
- 46% for rolled oats
- 73% for fruit and vegetables

DAILY FIBRE INTAKE OF AUSTRALIAN ADULTS BY SERVES OF CORE GRAIN FOOD



AI = Adequate Intake

Grain Food Recommendations: Australians Falling Short

CORE GRAIN FOODS

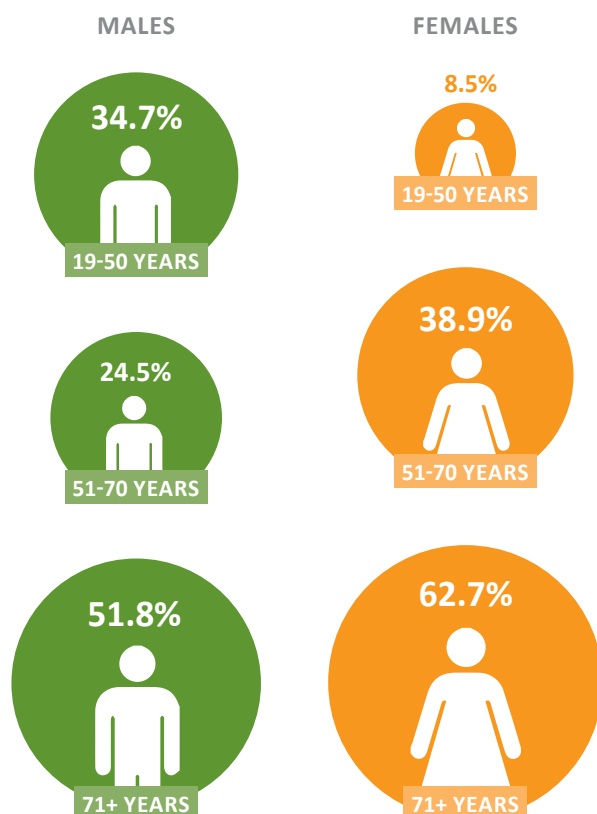
Many Australians are cutting back on core grain foods not realising they are a key source of essential nutrients⁽⁴⁾. As a result average intakes of core grain foods fall below recommendations for optimal nutrition and health.

In 2011-12, according to the NNPAS⁽⁵⁾:

- Only 33% of men and 24% of women met the recommended number of serves of grain foods for their age
- Young women were particularly at risk with only 8.5% eating the recommended serves of grain food a day, on average falling 2.3 serves below recommendations.

More recently, the 2014 GLNC Consumption and Attitudinal Study found core grain food intakes dropped dramatically from 2011, by almost one third (29%)⁽⁴⁾.

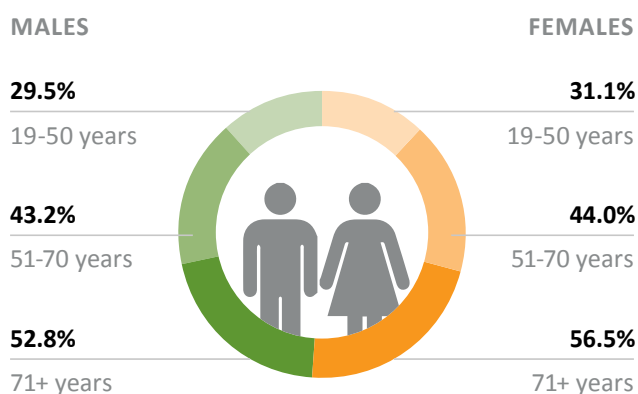
AUSTRALIAN ADULTS MEETING CORE GRAIN FOOD RECOMMENDATIONS⁽⁵⁾



WHOLE GRAIN AND HIGH FIBRE GRAIN FOODS

In 2011-12, according to the NNPAS Australian adults did not meet the recommendation to choose mostly whole grain or high cereal fibre grain foods as only a third of grain foods consumed were whole grain or high fibre⁽⁵⁾.

PROPORTION OF CORE GRAIN FOODS AS WHOLE GRAIN OR HIGH FIBRE⁽⁵⁾



The 2014 GLNC Consumption and Attitudinal Study supports this finding, showing 43% of Australian adults ate less than one serve of whole grain food per day, well short of the three serves per day shown to be good for health⁽⁴⁾. On average, Australians need to increase their whole grain intake by 1.5 serves per day.

Whole Grain and High Fibre Grain Foods

Large population studies show that people who eat at least **three serves** of whole grain and high fibre grain foods each day, such as bread and breakfast cereal, are less likely to gain weight over time or to develop type 2 diabetes or heart disease. Based on this evidence the Australian Dietary Guidelines recommend we choose whole grain and/or high cereal fibre grain foods most of the time⁽⁶⁾.

Why Australians are not Reaping the Rewards of Quality Grains

Whole grain and high fibre grain foods are a hallmark of healthy diets. Research shows people with higher intakes of quality grains experience better diet quality and more favourable health outcomes⁽⁷⁻⁹⁾. However, results from the 2014 GLNC Consumption and Attitudinal Study indicate people are choosing to cut back on grain foods for several reasons. We have taken a look at these beliefs and the facts about grain foods.



PERCEPTION: GRAIN FOODS ARE LINKED TO WEIGHT GAIN

In fact, the secondary analysis of the NNPAS found the opposite relationship with weight status. Compared to adults who ate less than two serves of core grain foods, adults who ate six serves of core grain foods a day* had higher energy intakes but were⁽²⁾:

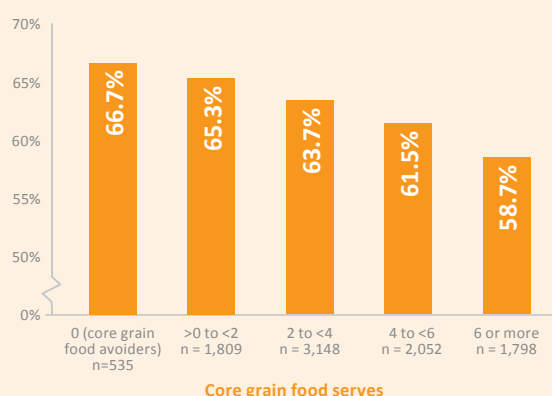
- Less likely to be overweight
- More likely to have a waist circumference in the range linked to good health

When age, gender and energy intake were taken in to account, adults who ate six serves of core grain foods a day had⁽²⁾:

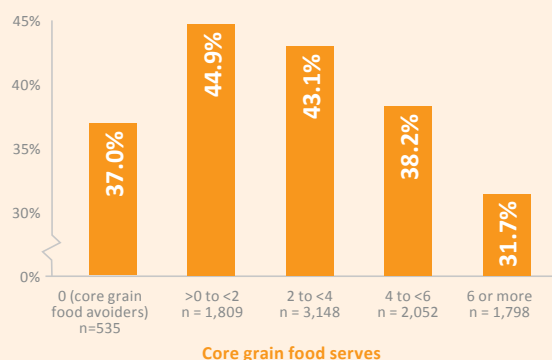
- Lower waist circumference
- Lower BMI

In a further comprehensive statistical analysis which controlled for a wide range of factors that may influence weight status, the difference in waist circumference and BMI between groups was no longer significant. Adults who ate more core grain foods had a similar waist circumference and BMI to those who ate less core grain foods.

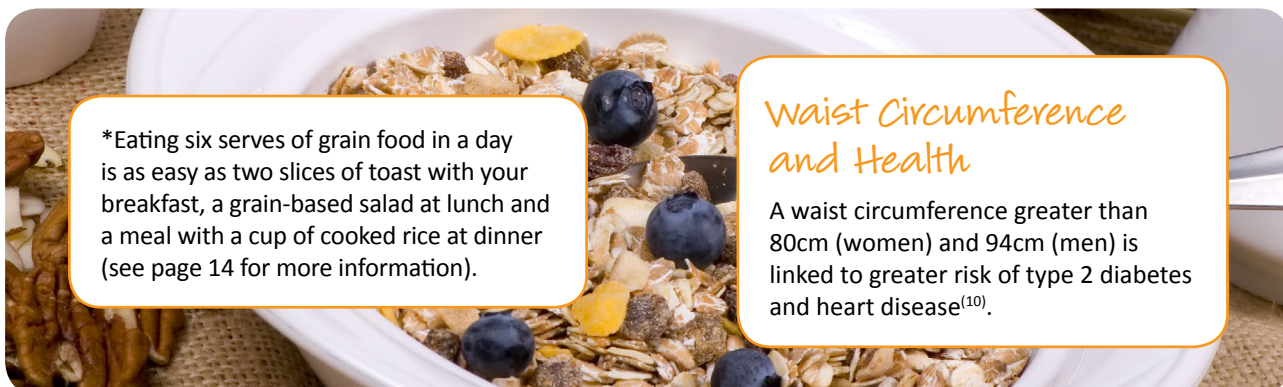
PROPORTION OF ADULTS OVERWEIGHT OR OBESE



PROPORTION OF ADULTS ABOVE HIGH RISK WAIST CIRCUMFERENCE†



†Based on the World Health Organization cut-offs for waist circumference⁽¹⁰⁾.



*Eating six serves of grain food in a day is as easy as two slices of toast with your breakfast, a grain-based salad at lunch and a meal with a cup of cooked rice at dinner (see page 14 for more information).

Waist Circumference and Health

A waist circumference greater than 80cm (women) and 94cm (men) is linked to greater risk of type 2 diabetes and heart disease⁽¹⁰⁾.



PERCEPTION: GRAIN FOODS ARE LINKED WITH POOR DIGESTIVE WELLBEING

In fact, grain foods are a source of different types of fibre which are essential for good digestion. Insoluble fibre found in whole grain wheat and bran-based grain foods is the most effective treatment for all forms of constipation, promoting regular digestive function⁽⁶⁾. In addition, the fermentable dietary fibres in grains act as prebiotics which promote the growth of beneficial bacteria in the digestive system, which in turn helps to reduce the amount of less healthy bacteria⁽¹¹⁾.

PERCEPTION: GRAIN FOODS DO NOT CONTRIBUTE TO HEALTH AND WELLBEING

In fact, people who eat core grain foods do not appear to be at greater risk of disease. The analysis of the NNPAS commissioned by GLNC found no trend to support an increased risk of high blood cholesterol, high blood sugar levels, high blood pressure, type 2 diabetes or heart disease for adults with increased core grain intakes (self-reported history)⁽¹⁾. In fact, people who ate the recommended amount of grains foods were more likely to report being in excellent health.

What we do know is people who choose whole grain, high fibre and low glycemic index (low GI) grain foods are less likely to develop chronic disease. A recent comprehensive review of more than 304 pooled meta-analyses and systematic reviews, the first of its kind, found whole grain and high fibre grain foods offered the greatest protection against diet-related diseases, and were more protective than any other plant-based food groups⁽⁹⁾.



People with higher intakes of whole grain, high fibre and low GI grain foods are less likely to:

1. Gain weight^(12, 13)
2. Have heart disease^(14, 15)
3. Develop type 2 diabetes⁽¹⁵⁻¹⁷⁾
4. Suffer bowel cancer⁽¹⁸⁾
5. Experience low grade inflammation⁽¹⁹⁻²³⁾
6. Experience an early death⁽²⁴⁾

Whole Grains Love Your *Whole* Body



WHAT ABOUT REFINED CORE GRAIN FOODS?

All grain foods must undergo some form of processing to be edible. Refined grain foods such as white bread, white rice, pasta or lower fibre breakfast cereals still make an important contribution to nutrient intakes⁽²⁵⁾. A systematic review of the evidence showed consumption of up to half of all grain foods as refined core grain foods is not associated with an increased risk of cardiovascular disease, diabetes, weight gain or risk of an early death⁽²⁶⁾. Low GI refined grain products are a better choice.

GLNC GRAIN FOOD AUDIT RESULTS: Breakfast Cereals

CATEGORY SNAPSHOT

In the GLNC 2015-2016 audit of the breakfast cereals category, 420 products were identified and classified as either ready-to-eat cereals (RTEC (39% of products)), mueslis including granola and oat-based cluster products (43%) or hot cereals such as oats (17%).

Type	Description	Number	Serving size (g)	
			Median	Range
RTEC	Rice, oat, wheat, corn, mixed grain and flaked or shaped cereals and wheat breakfast biscuits.	165	40	20-55
Muesli, granola, or oat clusters	Muesli, granola or cluster style with rolled or whole oats as the major grain ingredient.	182	45	25-100
Hot cereals	Plain rolled oats, quick oats and porridge style cereals.	73	35	30-57

Health Star Rating

- Half (50%) of the products displayed the Health Star Rating
- Of the products carrying the Health Star Rating, 89% were rated 3.5 or more stars and the majority (82%) were rated 4-5 stars
- This aligns with an analysis of Health Star Rating data provided and estimated for all breakfast cereals in 2013 which showed 79% of the total breakfast cereal category was eligible to carry 3.5 or more stars⁽²⁷⁾

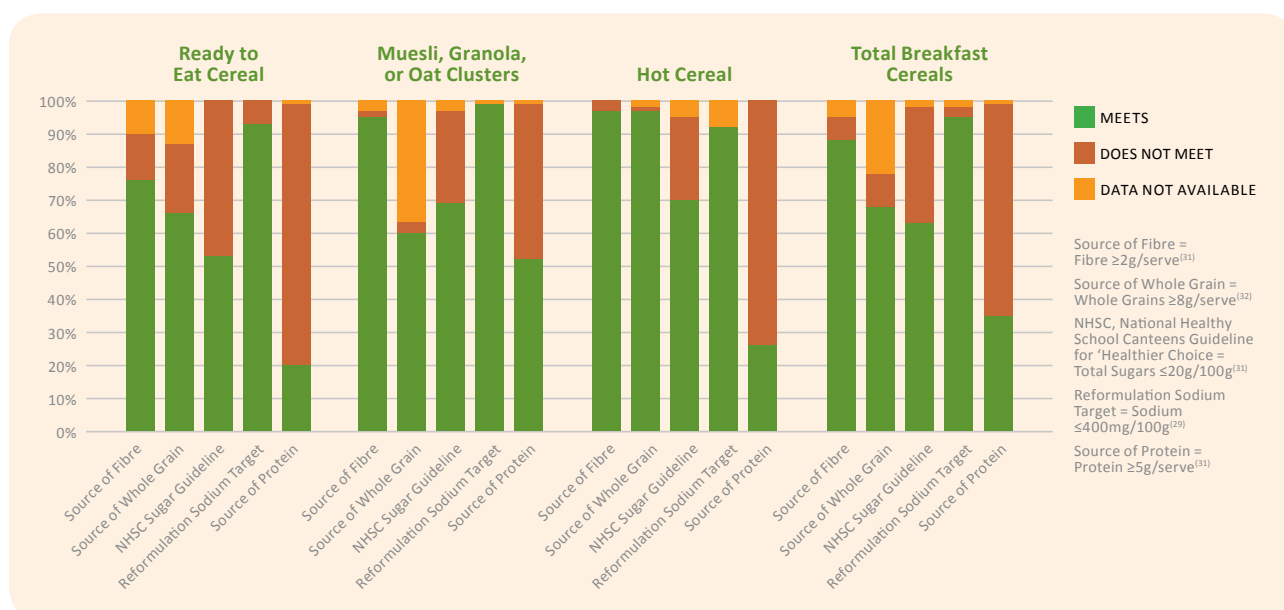
Nutrition

The GLNC 2015-2016 audit confirms the important role of the breakfast cereal category in delivering nutrition.

- Almost 9 out of 10 breakfast cereals were a source of fibre (≥ 2 g fibre per serve)
- 69% of breakfast cereals were a source of whole grain (≥ 8 g whole grain per serve)
- 59% of breakfast cereals provided over one-third of the whole grain daily target intake (48g) in just one serve
- 35% of breakfast cereals were a source of plant-based protein (≥ 5 g protein per serve)

Sodium and Sugar

- 61% of breakfast cereals were low in sodium (less than or equal to 120mg per 100g)⁽²⁸⁾
- 95% met the Australian Government's benchmark for sodium reformulation set at 400mg per 100g or less⁽²⁹⁾
- 63% of breakfast cereals had less than or equal to 20g of total sugars per 100g, the National Healthy School Canteens Guideline for 'Healthier Choice' breakfast cereals⁽³⁰⁾

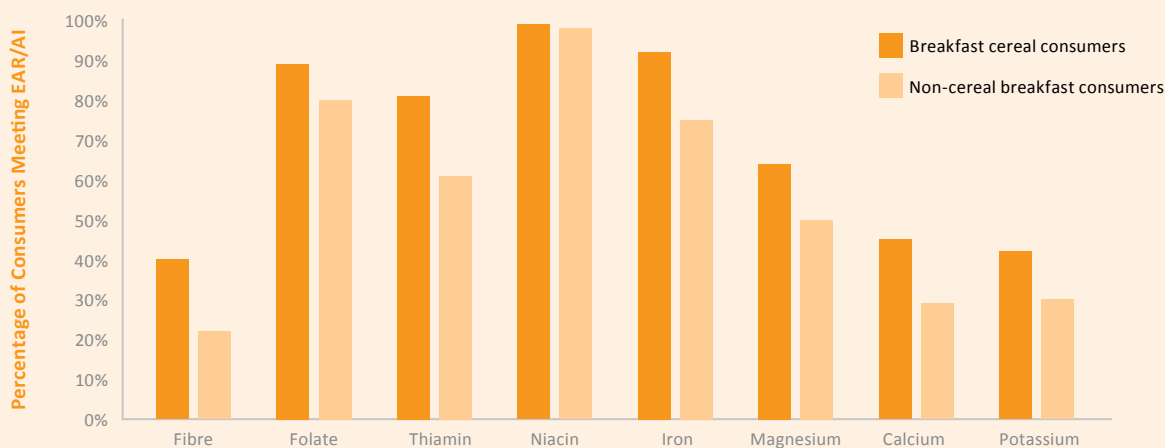




Contribution to the Australian Diet

An analysis of the NNPAS commissioned by the Australian Breakfast Cereal Manufacturers Forum, showed that adult breakfast cereal consumers were more likely than adult non-cereal breakfast consumers to meet their nutrient needs for fibre, folate, thiamin, niacin, iron, magnesium, calcium and potassium⁽³³⁾.

PERCENTAGE OF AUSTRALIAN ADULT BREAKFAST CEREAL CONSUMERS AND NON-CEREAL BREAKFAST CONSUMERS MEETING THE ESTIMATED AVERAGE REQUIREMENT (EAR) OR ADEQUATE INTAKE (AI)



The results of the NNPAS also show that for Australians adults breakfast cereals (per capita):

- Contributed very little to total energy (4.6%), sodium (2.2%) and fat (2.3%)⁽³⁴⁾
- Only contributed to 3.6% of total sugars and 2.9% of free sugars in the diet^(34, 35)

Health Benefits

The most comprehensive review of the nutrition and health effects of breakfast cereals to date, which included more than 230 papers over 30 years, reinforced the important role that breakfast cereals make as core grain foods to nutrition and health outcomes⁽³⁶⁾.

People who ate breakfast cereal regularly:

- Had better quality diets and better nutritional status
- Lower BMI and lower risk of overweight and obesity

Regular whole grain and/or high fibre breakfast cereal consumption was associated with:

- Lower risk of type 2 diabetes and cardiovascular disease
- Improved digestive wellbeing

Recent Consumption Trends

The GLNC 2014 Grains and Legumes Consumption and Attitudinal Survey showed that for all Australians⁽⁴⁾:

- 58% of people reported eating breakfast cereals
- Breakfast cereals made up 19% of daily core grain food intakes, and were the leading contributors of whole grain in the Australian diet
- Wheat biscuits were the most commonly consumed followed by cereals described as flaked cereals, plain porridge/oats, muesli and then sweetened cereals.

GLNC GRAIN FOOD AUDIT RESULTS:

Breads

CATEGORY SNAPSHOT

The GLNC 2015-2016 audit of the breads category identified 581 core bread products classified as loaf breads including gluten free (44%), fruit loaf (4%), rolls and flatbreads (49%), English muffins and crumpets (3%).

Bread Type	Number	Serving size (g)	
		Median	Range
Loaf breads	253	74	27-134
Fruit loaf breads	22	65	31-125
Rolls and flatbreads (wraps, tortillas, international breads)	288	65	12.5-165
English muffins and crumpets	18	66	50-71

Excludes discretionary bread products such as sweet/iced breads and products topped with cheese, bacon, olives, garlic and onion.

Health Star Rating

- Only 5% of all core grain breads reported the Health Star Rating, limiting the category assessment
- An analysis of the provided and estimated Health Star Rating of all bread products in 2013 (excluding flatbreads) showed 78% of core bread products had 3.5 or more stars⁽²⁷⁾

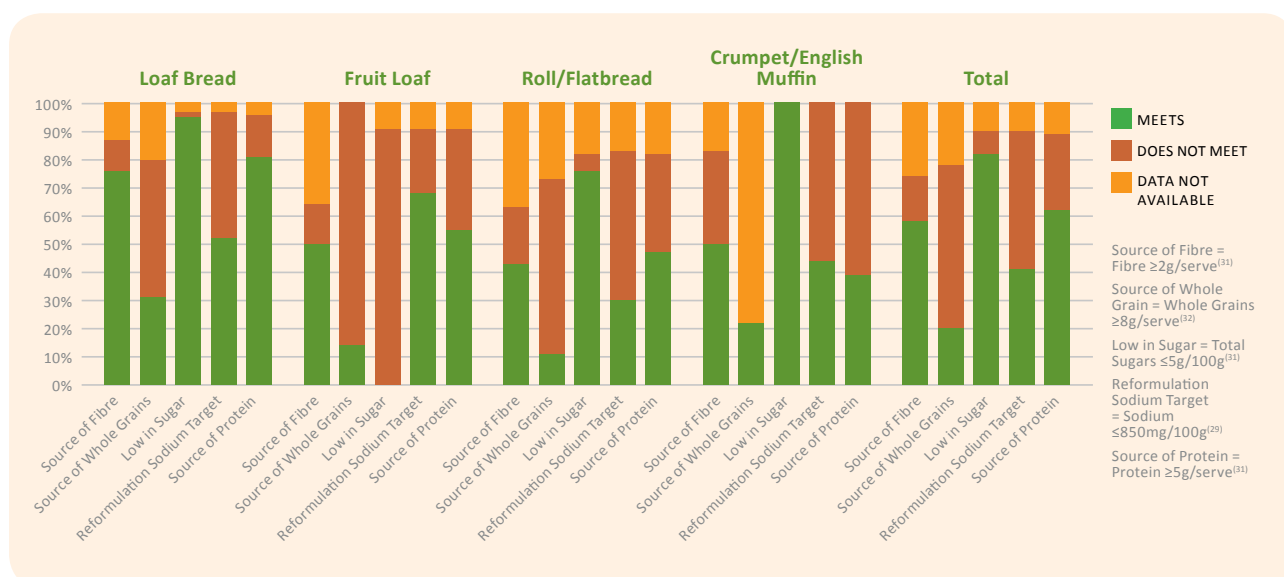
Nutrition

The GLNC audit highlights the nutrition credentials of the wide range of whole grain and high fibre bread products available to Australians:

- The majority of loaf breads (76%) were a source of fibre: 70% of white loaf breads and 94% of wholemeal loaf breads
- 31% of loaf breads were a source of whole grain. There were fewer whole grain options in other bread categories: fruit loaf (14%), rolls and flatbread (11%), English muffin and crumpet (22%)
- The majority of loaf breads (81%) and nearly half (47%) of rolls and flatbreads were a source of plant-based protein

Sodium and Sugar

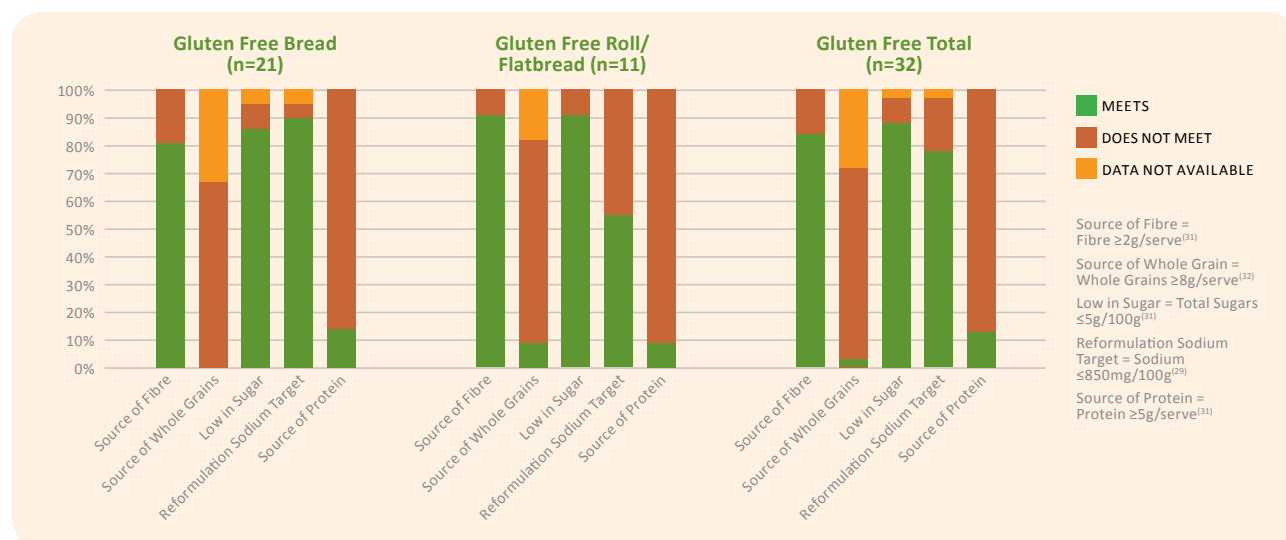
- In 2014, a study revealed that 67% of Australians surveyed believed that everyday sliced bread contains added sugar⁽³⁷⁾. This misconception was debunked by the GLNC audit with 95% of white and wholemeal bread loaves, 76% of rolls and flatbreads and 100% of crumpets and English muffins being classified as low in sugar ($\leq 5\text{g}$ per 100g)
- Half of loaf breads (52%) and two thirds of fruit breads (68%) met the Australian Government's reformulation target of $\leq 400\text{mg}$ of sodium per 100g, while 44% of English muffins and 30% of rolls and flatbreads met the target. Sodium adds flavour to bread and is important functionally for the texture of the dough, regulating yeast activity and prolonging shelf life





Gluten Free Breads

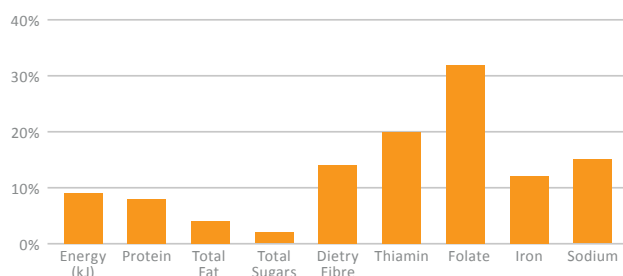
At the time of the audit there were no gluten free loaves and only one gluten free wrap eligible to make a whole grain claim ($\geq 8\text{g}$ per serve). Only 14% of gluten free loaves and 9% of gluten free rolls/flatbread were a source of protein.



Contribution of Bread to the Australian Diet

Breads make an important contribution to the nutrient intakes of Australians. In the NNPAS breads were the leading source of dietary fibre (14%) and contributed a substantial proportion of essential nutrients to the diets of Australian adults, including 8% of total protein consumed, 20% of thiamin, 32% of folate and 12% of iron. Breads also contributed 14% of sodium and only 4% total fat and 2% total sugars to the average Australian adults daily intake⁽³⁴⁾.

PERCENTAGE CONTRIBUTION OF BREADS TO AUSTRALIAN ADULTS ENERGY AND NUTRIENT INTAKES



Recent Consumption Trends

The GLNC 2014 Grains and Legumes Consumption and Attitudinal Survey showed that for all Australians⁽⁴⁾:

- Bread and bread rolls were the most commonly consumed core grain foods, with 78% of people eating these foods
- The most popular breads were white (eaten by 33% of people) and wholemeal mixed grain breads (20% of people)
- Bread products contributed 42% of the whole grain in the diet



Health Benefits

People who have higher intakes of wholemeal or whole grain bread experience:

- Lower risk of early death⁽³⁸⁾
- More favourable measurements of inflammation and oxidative stress⁽³⁹⁾

GLNC GRAIN FOOD AUDIT RESULTS: Grains and Other Grain Products

CATEGORY SNAPSHOT

The GLNC 2015-2016 Grains Foods Audit identified 291 products classified as pasta, noodles and couscous, rice and 'other grains' including grain mixes, quinoa, freekah and buckwheat.

Type	Number	Serving size (g)	
		Median	Range
Pasta, noodles, couscous	229	100	25-125
Rice	51	70	45-150
Other grains including grain mixes, quinoa, freekah, buckwheat	11	50	25-100

Excludes grains and other grain products within ready meal products, microwaveable rices, grain products mixed with other non-grain foods and grain products where nutrient information was provided as cooked.

Health Star Rating

- Less than 9% of all core grain and grain products reported their Health Star Rating, limiting the category assessment
- A comparable analysis of the provided and estimated Health Star Rating of all pasta, noodles, couscous and rice products in 2013 showed 73.8% of the total core grain products had 3.5 or more stars⁽²⁷⁾

Nutrition

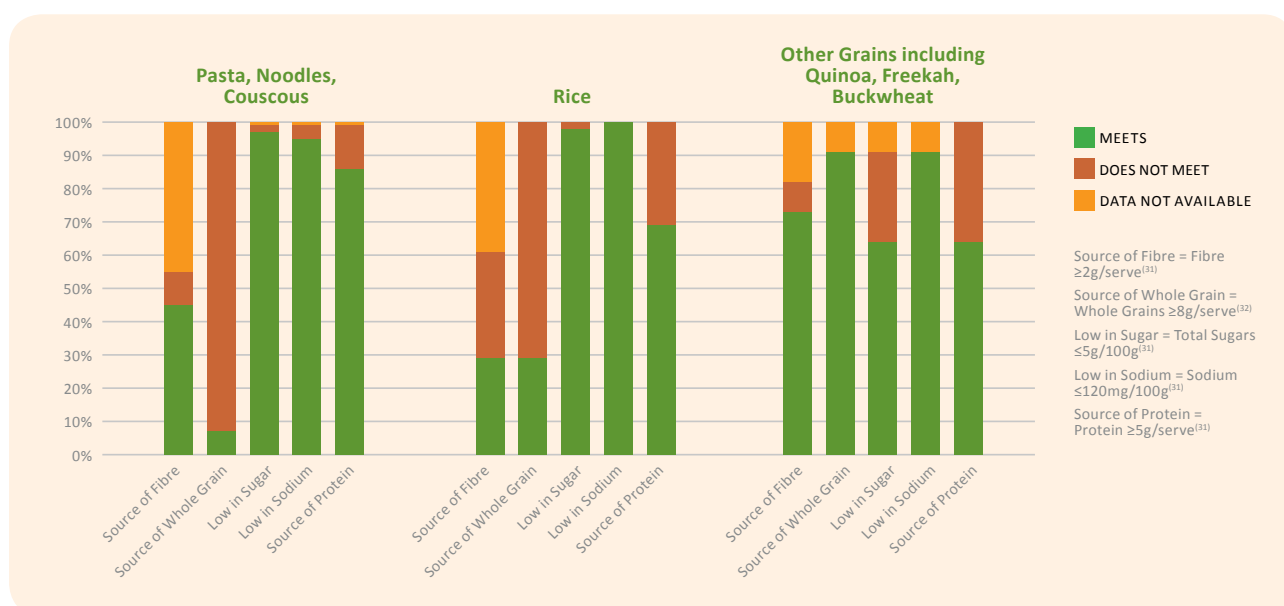
- Nearly half (45%) of pasta, noodles and couscous, almost a third (29%) of rice products and the majority (73%) of other grains were a source of fibre
- 7% of pasta, noodles and couscous, 29% of rice products and 91% of other grains were a source of whole grain
- 86% of pasta, rice and noodles, and over 60% of rice and other grains were a source of plant-protein
- The majority grains and grain products were low in total sugars and sodium



Recent Consumption Trends

The GLNC 2014 Grains and Legumes Consumption and Attitudinal Survey showed that for all Australians⁽⁴⁾:

- 16% ate white pasta, 4% ate wholemeal pasta, 10% ate noodles, 1% ate couscous and 2% ate other grains
- 29% ate white rice, 7% ate brown rice



GLNC GRAIN FOOD AUDIT RESULTS: Crispbreads, Rice Cakes and Corn Cakes

CATEGORY SNAPSHOT

The GLNC 2015-2016 Grain Foods Audit identified 53 plain crispbread products and 25 plain rice cake and corn cake products. Crispbreads were predominantly wheat based, but also included oat, maize and rye products and there was a mixture of whole grain and non-whole grain rice cakes and corn cakes.

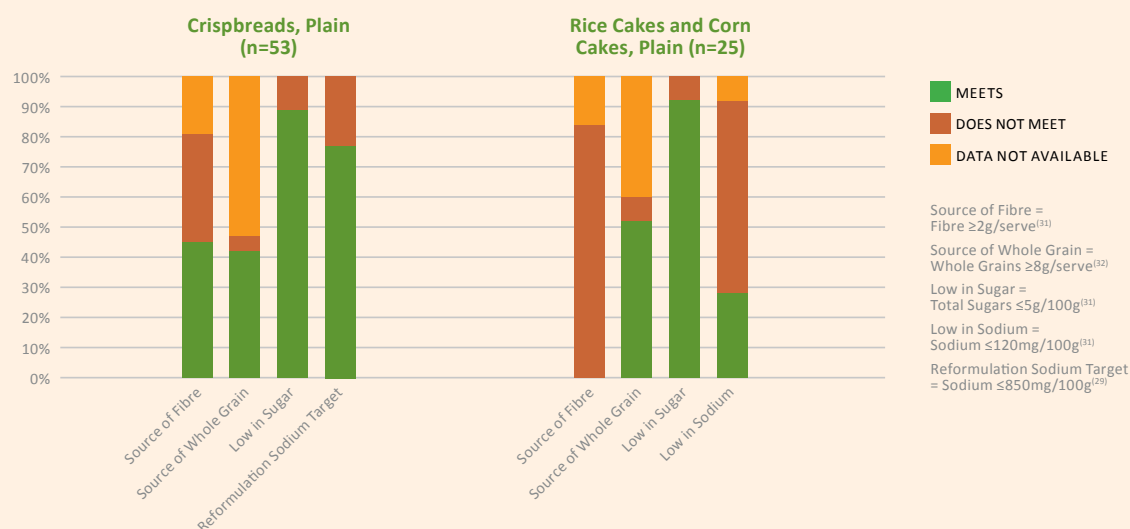
Type	Number	Serving size (g)	
		Median	Range
Crispbreads, plain	53	23	5-38
Rice cakes and corn cakes, plain	25	12	5-28

Sugar and Salt

- The majority of plain crispbreads and rice and corn cakes available on shelf were low in sugar ($\leq 5\text{g}$ per 100g)
- 28% of the rice and corn cakes category was low in sodium ($\leq 120\text{mg}$ per 100g)
- 77% of crispbreads met the Australian Government reformulation target of $\leq 850\text{mg}$ per 100g. The higher sodium target for crispbreads is a reflection of the functional role of sodium, as it is used to maintain dough consistency and texture. If the sodium is significantly reduced the dough becomes too sticky and cannot be rolled out to make the product. No single ingredient can replace the multiple functionalities of sodium in crispbreads.

Nutrition

- Almost half of plain crispbreads provide a source of fibre (45%) and 42% were a source of whole grain
- More than half (52%) of the rice cakes and corn cakes were a source of whole grain



Recent Consumption Trends

The GLNC 2014 Grains and Legumes Consumption and Attitudinal Survey showed that for all Australians⁽⁴⁾:

- 7% ate plain crispbreads and 3% ate wholemeal/whole grain crispbreads.
- 4% ate plain rice/corn cakes

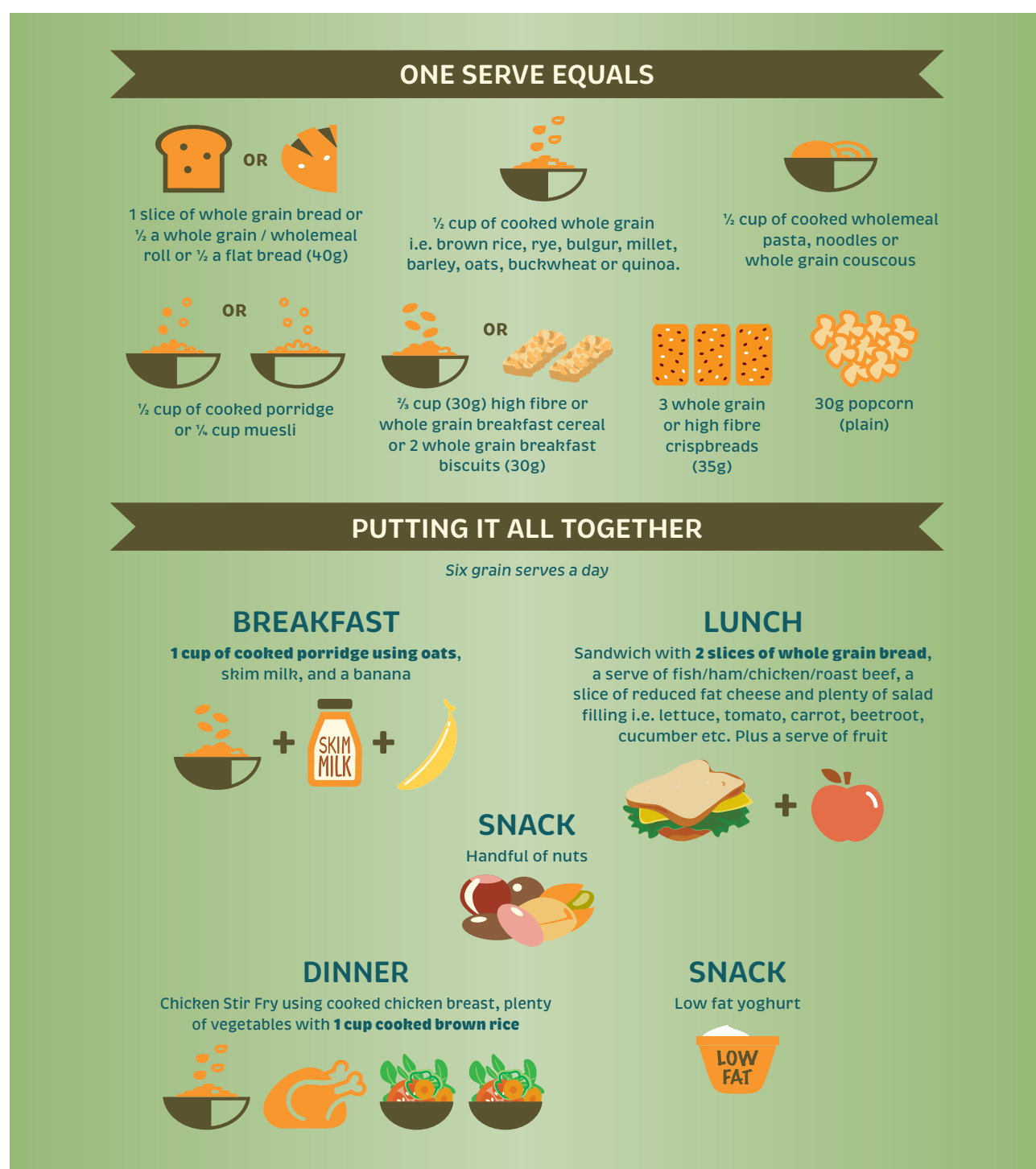


Taking Action

By adding one and a half serves of high fibre grain food to their daily diet, Australians could increase their fibre intake by at least six grams, making an important contribution towards the recommended intake for fibre (25g women, 30g men).

By adding one or two more serves of whole grain foods to their daily diet, many Australians could reduce their risk of type 2 diabetes and heart disease.

By meeting the recommended number of core grain food serves, Australian adults could enjoy higher fibre intakes without any difference in BMI or waist circumference, when compared to those who limit or avoid core grain foods.



RECOMMENDATIONS

The 2013 Australian Dietary Guidelines recommends different amounts of grain foods depending on age and gender. These amounts are based on the nutrient requirements for each age and gender group, as well as a review of all the studies about grain foods and health. For all ages and genders these grain foods should be mostly whole grain or high fibre grain foods.

As a simple guide the Grains & Legumes Nutrition Council recommends enjoying core grain foods three to four times a day, choosing at least half as whole grain or high fibre grain foods.

Age (years)	Recommended Minimum Serves	
	Males	Females
2-3	4	4
4-8	4	4
9-11	5	4
12-13	6	5
14-18	7	7*
19-50	6	6*
51-70	6	4
71+	4½	3

*Higher when pregnant or lactating

DEFINITIONS

Core grain foods:

Foods within the grain (cereal) food group, including whole or partially processed cereal grains and pseudo-cereal grains, breads, breakfast cereals, crispbreads, rice, pasta, noodles, polenta and couscous. This excludes grain based discretionary foods, which contain a significant amount of added sugar and fat, such as cakes, biscuits, pastries, and muffins⁽⁶⁾.

Whole grain foods:

Grain foods made from milled, intact, cracked, flaked or puffed whole grains such as wheat (including burghul, spelt and other forms of wheat), oats, rye, brown rice, corn, hull-less barley, millet, sorghum, teff, amaranth, buckwheat and quinoa and include whole grain or wholemeal breads, multigrain breads, whole grain breakfast cereals, whole grain crispbreads, wholemeal pasta and wholemeal couscous^(32, 40).

High fibre grain foods:

The Australia New Zealand Food Standards Code defines high fibre foods as containing four or more grams of fibre per serve⁽³¹⁾. The majority of whole grain foods are also high in fibre, but some non-whole grain foods are also high in fibre such as bran-based breakfast cereals and high fibre white breads.

Refined core grain foods:

Includes white breads, white rice, pasta and lower fibre breakfast cereals. These choices do not deliver whole grain and are lower in fibre due to their greater level of processing. In many cases, particularly with breads and refined breakfast cereals, these foods still deliver essential vitamins and minerals through fortification and enrichment within a balanced diet (read more on page 4).

References:

1. Nutrition Research Australia. Secondary Analysis of the 2011-12 National Nutrition and Physical Activity Survey. Unpublished. 2015.
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