



# Do Australians Eat Enough Grains and Legumes?

Go Grains Health & Nutrition Ltd

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Go Grains is Australia's leading independent voice for grain foods and legumes in health and nutrition.

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## Grains and Legumes Consumption

- **Did you know.....**
- Australians eat over **400 million serves** of grain foods per week
- Grains make an important nutrient contribution to the Australian diet
- Australians eat over **35 million serves** of legumes per week



## Introducing Go Grains Health & Nutrition

- **Australia's leading independent voice for grain foods and legumes in health and nutrition**
- Knowledge centre – specialised resources
  - translate nutrition science into key messages for influencers
    - Health care professionals
    - Government
    - Regulators
    - Food industry



# Go Grains Contributors



**Grains  
Research &  
Development  
Corporation**



National Research  
**FLAGSHIPS**  
Food Futures



AUSTRALIAN  
FOOD AND GROCERY  
COUNCIL



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## Do Australians Eat Enough Grains and Legumes?

- **Grains and Legumes in our Diet**
- **Australian Consumption of Grains and Legumes**
- **Key Messages**



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## Background Information: Grains

- **Grains** (cereals), are a staple food around the world
- **Wheat, rice and oats**, are the commonly eaten grains in Australia
- **NNS '95** – cereals and cereal based foods were key contributors in the diet
  - Primary source - fibre, thiamin, magnesium and iron
  - Secondary source - folate, niacin, zinc and protein
- **KEKP '07** – similar findings

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## Dietary Recommendations: Grain Foods

- Australian Dietary Guidelines / Australian Guide to Health Eating

**Four serves of grain based foods each day,  
'preferably wholegrain'<sup>15</sup>**

- What is a serve of grain-based food?
  - 2 slices of bread
  - ½ cup muesli
  - 1 cup cooked rice, noodles, pasta
  - 1 cup of porridge
  - 1 cup of breakfast cereal or 2 wheat flake biscuits
- Exclude extra foods





## Background Information: Wholegrains

- Wholegrain Definition\* - "the intact grain or the dehulled, ground, milled, cracked or flaked grain where the constituents – endosperm, germ and bran – are present in such proportions that represent the typical ratio of those fractions occurring in the whole cereal, and includes wholemeal"<sup>2</sup>
- Milling helps release valuable nutrients concentrated within the outer layers of the grain
- Wholegrains contain many functional components that work both alone and in synergy to promote health and offer significant protection against many diseases

\*Food Standards Code

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## Dietary Recommendations: Wholegrains

- Go Grains recommends **2** out of **4** serves - **wholegrain**
- Daily Target Intake (DTI) for wholegrains of 48g a day<sup>22,23</sup>
- The 48g DTI can be found on the labels, websites and TVCs of many breads, breakfast cereals, rice, crispbreads and snacks



One serving of Weet-Bix provides over 60% of the 48g daily target for wholegrains

## Wholegrain Content of Wholegrain Foods

- No Australian definition for 'wholegrain food'
- Wholegrain content varies across categories and brands



## Background Information: Legumes

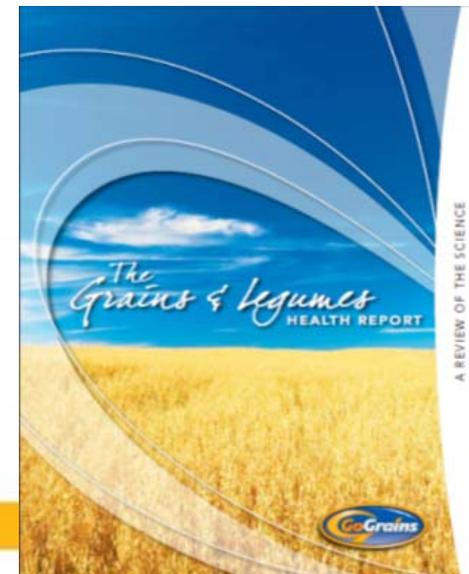
- Also known as **pulses**
- Butter beans, haricot (navy beans), cannellini beans, red kidney beans, adzuki beans, black eyed-peas, soybeans, mung beans, lentils, split peas, peanuts and chickpeas
- Provide a range of essential nutrients including protein, low glycaemic carbohydrates, dietary fibre, vitamins, minerals and phytochemicals
- Are higher in protein than most other plant foods





## Health Benefits of Grains and Legumes

- Wholegrains and Legumes in the diet – reduced risk of chronic disease
  - Cardiovascular disease
  - Type 2 diabetes
  - certain cancers
  - lower blood pressure
  - lower BMI





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# Grains and Legumes Consumption

## Go Grains Consumption Study 2009 and 2011

- n=1200, nationally representative sample, aged 5-80yrs
- 2 day food diary (self reported), followed by an online survey
- Collected data for 75 grain foods and legumes
  - core grain foods
  - non core grain foods
- Thanks to Grain Growers Limited for their support with 2011 study

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## Grains and Legumes Consumption

### Results: grain foods

	2009	2011
total grain serves /day	5.2	4.4
% cereal based 'extra' foods	22	28
total adjusted grain serves /day	4.1	3.2*
male adjusted grain serves /day	4.8	3.4*
female adjusted grain serves /day	3.3	3.0
kids 5-14yrs	3.1	2.8

\* Significant difference

**31% of respondents said 'should eat 2 serves of grains per day'**

## Australians are not eating enough core grain foods...

- Increase in non core grain foods
  - 1/3 of total grain food intake
- Bread is slipping off the plate
  - 1 slice less a day
  - All bread types
- Eating less
  - breakfast cereal
  - pasta
  - noodles
  - rice
- Eating more
  - bars





## Grains and Legumes Consumption

### Results: wholegrain foods (estimated)

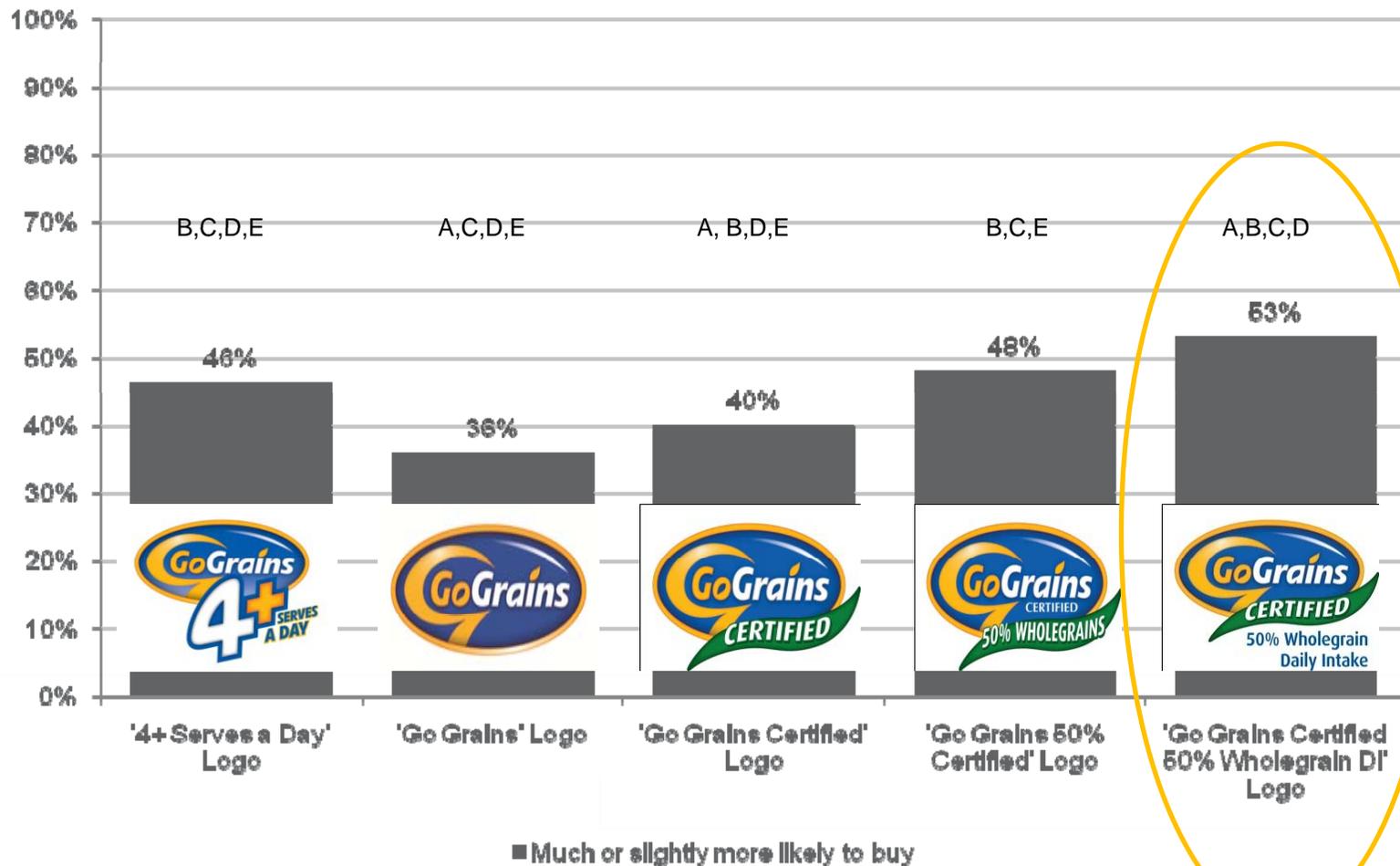
	2009	2011
total adjusted grain serves /day	4.1	3.2*
wholegrain adjusted serves / day	1.4	1.1
male adjusted wholegrain serves /day	1.8	1.2*
female adjusted wholegrain serves /day	1.1	1.0

\* Significant difference

**41% of respondents said 'didn't know how much wholegrains to eat per day'**



# Wholegrain content communication is influential!



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# Are Australians eating enough grain-based foods and legumes?

## Results: Legumes

- Consumed by only 23% of all Australians
- Those who eat legumes are eating 1.9 serves or 142g per day
- Baked Beans were the main contributor to legume intake



Source: Simply Great Meals



## The Challenge: Increasing Consumption

### Barriers to grain and wholegrain food consumption

- Traditional and cultural preferences for refined grain foods
- Unaware of the health benefits and importance of grains in the diet
- Limit grains to assist with weight loss
- Don't think about including grains in their diet
- Confusion in product labeling



## The Challenge: Increasing Consumption Wheat misconception.....

- Do you limit or avoid wheat in your diet?
  - 16% of total population
  - 22% females
- Diagnosis
  - 69% self or other diagnosed
    - 35% self diagnosed
    - 43% 25 – 34 yr olds
- Seek guidance of Dietitian / Nutritionist
  - 17% seek guidance
    - 28% males
    - 10% women



## The Challenge: Increasing Consumption

### Barriers to Legume consumption.....

- Unfamiliarity with preparation and cooking techniques
- Lack of awareness of health benefits
- Perceived side effects





# The Challenge: Increasing Consumption

## Consistent wholegrain and legume messaging

- On pack, websites, TVC - 48g WG DTI, nutrient content
- Health Care Professional Information
  - Go Grains brochures
- Health Claims - collaboration



### Nutritious, low in fat and health promoting

**What is a legume?**  
Legumes (also known as pulses) are eaten throughout the world in many cultures. They include all types of beans and peas - there are many varieties, including kidney beans, butter beans, cannellini beans, baked beans (haricot/navy beans), soybeans, mung beans, black-eye peas, split peas, lentils, chickpeas and peanuts. Legumes also come in a variety of forms - dried, canned, cooked and frozen.

Legumes are highly nutritious: they contain a wide range of essential nutrients including significant amounts of dietary fibre, as well as many important vitamins and minerals, such as B vitamins, iron, zinc, magnesium and calcium.

An excellent and inexpensive source of protein, legumes don't contain the saturated fat of many other protein foods, such as animal products. Most legumes contain very little fat and, like other plant foods, no cholesterol. Soybeans and peanuts are the exceptions - these are significant sources of healthy fats, mostly monounsaturated and polyunsaturated.

Together with wholegrains, legumes have been shown to improve glucose in diabetes<sup>10</sup> and reduce diabetes risk<sup>11</sup>. A major review of over 40 controlled trials found that legumes lowered fasting blood glucose and insulin, and in conjunction with low-glycaemic index (GI) diets also lowered HbA1c (an indicator of blood glucose control over time)<sup>12</sup>.

**Legumes and health**  
Legumes help protect against chronic diseases such as cardiovascular disease and type 2 diabetes<sup>13</sup>.

**Reduce cardiovascular disease risk**  
Population studies have found eating legumes is associated with a significantly reduced risk of coronary heart disease<sup>14</sup> and cardiovascular disease (CVD)<sup>15</sup>. One study found including legumes in the diet four times a week reduced CVD risk by over 20% and CVD risk by over 10%.<sup>16</sup> Studies on soy in particular have shown a reduction in cholesterol levels and heart disease risk<sup>17</sup>. In addition, a recent analysis of all trials comparing eating legumes other than soy with a placebo diet found a significant decrease in both total and LDL cholesterol with non-soy legume-rich diets<sup>18</sup>.

It appears the healthy components found in legumes, including dietary fibre, plant sterols, phytochemicals, and antioxidants, as well as the healthy fats in some types, act together to reduce CVD risk by reducing blood cholesterol levels.

**Improve blood glucose levels in type 2 diabetes**  
Together with wholegrains, legumes have been shown to improve glucose in diabetes<sup>10</sup> and reduce diabetes risk<sup>11</sup>.

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It is thought that legumes may reduce type 2 diabetes risk because of the overall effects of their components on blood glucose levels after a meal - legumes slow the absorption, and reduce a meal's GI<sup>19</sup>.

### Did you know:



Legumes are a rich source of dietary fibre, protein, vitamins and minerals such as folate, potassium and iron - a nutrient powerhouse.

### Why eat more legumes?

Not only do legumes contain useful vitamins and minerals, they have other properties that make them worth including in your diet.

**Weight management & safety** - legumes are filling, relatively low in kilojoules, and low-GI, so it makes sense that they can help in a weight-management diet.



### Health gains from wholegrains

The many health benefits of wholegrains are well known - they are good for your heart<sup>20</sup> and digestive system<sup>21</sup>, and can help maintain blood glucose control<sup>22</sup>. People who eat wholegrain foods regularly are more likely to have better long term weight control<sup>23</sup> and less likely to develop some types of cancer<sup>24</sup>.

To reap these health benefits, Go Grains Health & Nutrition (Go-Grains) recommends Australian adults aim to eat 48g of wholegrains each day\*. This Daily Target Intake (DTI) is based on review of scientific research studies and wholegrain recommendations around the world<sup>25</sup>.

**Why are wholegrains so special?**  
The term 'wholegrain' refers to grains that contain all parts of the grain - the bran (fibre-rich outer layer), the germ (nutrient-rich inner core) and the endosperm (starchy and protein layer). The bran and germ contain many beneficial nutrients such as vitamins, minerals and fibre, together with antioxidant and other protective components.

Wholegrains can be 'whole' wholegrains, or can be rolled, cracked or ground\*. Milled wholegrains are called 'wholemeal'. They are wholegrains - just milled to finer pieces. Processing wholegrains (by breaking or milling them into finer pieces) can make it easier for the body to use the important nutrients they contain<sup>26</sup>.

In Australia, commonly eaten wholegrain foods include wholemeal and mixed grain breads, wholegrain breakfast cereals, oats, muesli, wholemeal pasta, brown rice, wholegrain crispbreads, popcorn, and whole barley. Pseudo-cereals such as amaranth, buckwheat, quinoa and wild rice are less commonly eaten, but generally recognised as wholegrains due to their similar structure and nutritional composition. Look for them in the 'health food' aisle of the supermarket.

**Why eat wholegrains?**  
Australian Dietary Guidelines encourage adults, adolescents and children to 'eat plenty of grains (including breads, rice, pasta and muesli), preferably wholegrain'<sup>27</sup>. Reaping the numerous benefits of grains, wholegrains contain essential nutrients such as B vitamins, Vitamin E, fibre, iron, magnesium, phosphorus and zinc<sup>28</sup>. They also contain protective substances like antioxidants and phytochemicals.

Wholegrains are low in saturated fat, cholesterol and free fat (as are all natural plant foods), full of long-lasting energy and a good source of protein<sup>29</sup>. It's a bonus that foods made with wholegrains are also 'filling', which means you will be more satisfied (on smaller portions) - great news if you are watching your weight!

Wholegrain foods are not only good for you, but they also add taste and texture to any meal. The more complex, rich flavours of wholegrains - often described as nutty or earthy - are very satisfying. If you are not convinced about the great taste of wholegrains, incorporate them into your diet gradually.

### Did you know:



Wholemeal foods contain wholegrains - just milled to finer pieces.

WHOLEGRAIN FOODS	Approx. and % of DTI*
Wholemeal bread, 2 slices	30-40g
Mixed grain bread, 2 slices	5-30g
Wholemeal pasta, 2 servings	30g
Wholemeal breakfast cereal, 30-40g cereal	15-30g
Muesli, natural, 1/2 cup	30-40g
Porridge, using 1/2 cup raw rolled oats	30g
Brown rice, 1 cup cooked	40g
Wholegrain pasta, 1 cup cooked	50-60g
Wholegrain crispbreads, 2-4 slices	20-30g
Wholemeal crumpets, 2 crumpets	20g
Buckwheat, 4 slices	20g
Popcorn, plain, 2/3rds bowl	15g
Muesli bar, 1 bar	10-15g

\*DTI values are based on average adults, the actual amount of wholegrains depends on sex, age and body weight.





## Significant benefits to be gained with increased consumption of grain foods

- Increased consumption grain foods to **4 serves a day**
  - **>\$1.0 billion** in core grain food product sales
  - **>\$49 million** in value at farm gate



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## Where to from here....

- Lack of knowledge and misconceptions undermining role of grains and legumes in the diet
- Evidence-based foundation
  - health benefits
  - core grain foods and legume consumption
- Meat and Livestock's Nutrition Campaign\*
  - Increased health care professional knowledge of red meat's role in chronic disease dietary management
  - Consumers have greater understanding of red meat's role in a healthy diet
  - 22% increase in demand for beef and lamb
  - \$3 billion increase in consumer spend

\* Meat and Livestock Australia, 2009

## Where to from here....

- Urgent call to action.....
  - Wide reaching campaign
  - Health care professionals and consumers
  - Shift attitudes and behaviours
  - Reverse downward trend for grains
  - Grow grains and legumes consumption
  - Benefits....





## Key Messages

- Australians are **under-consuming core grain foods, particularly wholegrains, and legumes**
- **Grains, particularly wholegrains, and legumes can reduce the risk of chronic diseases, by at least 20%**
- **Go Grains plays a role in increasing consumption with input from the Grains and Legumes Value Chain**



# Do Australians Eat Enough Grains and Legumes?

Thank You

Further Information

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