

# A FACTSHEET FOR HEALTH PROFESSIONALS

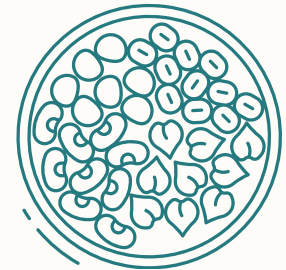
## LEGUMES: SUMMARY OF THE EVIDENCE

'Legume' refers to all types of lentils, beans, pulses, and peas from the Fabaceae family. They vary in shape, size, and colour, and can be eaten whole, split, dried, canned, cooked, frozen, or ground into flour. Examples of legumes include chickpeas, beans, peas, lentils, and lupins.

### WHERE DO THEY FIT IN THE 2013 AUSTRALIAN DIETARY GUIDELINES?

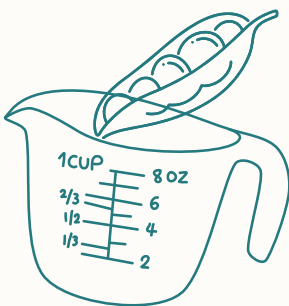
Legumes are included in two of the five food groups:

- The vegetables and legumes/beans group, as they contain fibre, vitamins and minerals<sup>(1)</sup> and;
- The lean meats, poultry and fish group as they are a source of protein<sup>(2)</sup>.



### DO AUSTRALIANS EAT LEGUMES?

- Australians consume an average of 2.9kg of legumes per year, compared to the world average of 5kg<sup>(4)</sup>.
- Less than 4 per cent of Australians consume the minimum recommended number of serves of vegetables and legumes on a regular basis, averaging just 2.7 serves compared to the suggested 5 serves<sup>(5)</sup>.
- When looking at legumes, data suggests that median legume intake is 4g per day<sup>(6)</sup>, with 44 per cent of Australians reporting they do not consume legumes<sup>(5)</sup>; and only 28 per cent of Australians consuming them regularly<sup>(7)</sup>.



### WHAT IS A SERVE OF LEGUMES?

- As a vegetable, one serve is 75 g (1/2 cup) of cooked, dried or canned beans, chickpeas or lentils
- As a protein, one serve is 150 g (1 cup) cooked or dried beans, lentils, chickpeas, split peas or canned beans.
- Research has shown that eating 50 g (1/4 cup) of legumes per day has been linked to reductions in coronary heart disease and all-cause mortality<sup>(3)</sup>.

#### DID YOU KNOW?

### A DIET LOW IN LEGUMES IS ONE OF THE LEADING DIETARY RISK FACTOR CONTRIBUTING TO THE OVERALL DISEASE BURDEN IN AUSTRALIA.

- The most common barriers to legume consumption include family resistance, lack of preparation knowledge and perceptions of longer cooking times<sup>(52, 53)</sup>.
- The primary motives for increasing legume consumption include environmental and health<sup>(54, 55)</sup>.
- Legumes contribute to reduced greenhouse gas emissions, increased carbon sequestration and improved soil fertility<sup>(56-58)</sup>.
- They are one of the lowest-cost protein sources, offering significant public health savings<sup>(59, 60)</sup>.
- Pearl millet and chickpeas are adaptable to extreme conditions, making them ideal for addressing food insecurity in arid regions<sup>(61, 62)</sup>.

## WHY SHOULD AUSTRALIANS EAT MORE LEGUMES?

### Legumes and bone health

Plant-based diets rich in legumes are associated with a reduced risk of hip fractures, and improved body composition and muscle strength<sup>(8)</sup>. Soy proteins provide similar, beneficial effects on bone mineral density and bone mineral content compared to animal protein in post-menopausal women<sup>(9)</sup>.



### Legumes and weight management

Legumes positively influence metabolic health by reducing inflammatory markers<sup>(24, 25)</sup>. Plant-based diets high in legumes are also linked to a lower BMI, reduced obesity prevalence and improved metabolic profiles<sup>(26, 27)</sup>. While evidence on body composition is mixed, legumes promote satiety and energy regulation, supporting healthy weight management<sup>(28, 29)</sup>.



### Legumes and cardiovascular disease

Legumes are linked to a reduced risk of cardiovascular disease and, when consumed as part of a plant-based dietary pattern, can help lower cholesterol and blood pressure<sup>(12, 14-18)</sup>. Intervention studies have also shown that legumes improve inflammatory biomarkers linked to cardiovascular disease<sup>(17-19)</sup>. For children, legume-rich diets improve long-term cardiovascular risk markers like blood pressure and lipid profiles<sup>(20)</sup>.



### Legumes and diabetes

Legume consumption, as part of plant-based dietary patterns, is consistently linked to a reduced risk of type 2 diabetes risk and improved glycaemic control<sup>(13, 21)</sup>. Specific legumes, like lupins, enhance glycaemic markers, satiety and lipid profiles<sup>(22)</sup>. Observational and interventional studies report significant reductions in HbA1c and fasting glucose in legume-rich diets<sup>(16, 23)</sup>.



### Legumes and cancer

Legumes, as part of plant-based diets like the Mediterranean and DASH diets, are linked to reduced risks of colorectal, gastric and breast cancers<sup>(10-12)</sup>. Replacing animal proteins, in particular, red and processed meats, with legume-based proteins can significantly lower colorectal cancer risk<sup>(13)</sup>.



### Legumes and gastrointestinal health

Legumes support gastrointestinal health due to their dietary fibre and phytochemical content, which increases beneficial gut bacteria and can help manage digestive disorders. The fermentation of dietary fibre from legumes in the gut produces short-chain fatty acids, which have anti-inflammatory and immune-regulatory properties, contributing to reduced risks of chronic disease, including cardiovascular disease, type 2 diabetes, colorectal cancer and improved mental health outcomes<sup>(30-34)</sup>.



### Legumes and reproductive health

Observational and clinical studies have found that soy-based legumes and isoflavones do not disrupt endocrine function or reproductive health, showing no adverse effects on thyroid function, hormonal levels or ovulation<sup>(35)</sup>. Additionally, legume intake, particularly as part of a plant-based, Mediterranean dietary pattern, has been associated with a lower risk of gestational diabetes mellitus, pregnancy-induced hypertension, pre-eclampsia, intrauterine growth restriction, preterm birth and low birth weight<sup>(36-40)</sup>.



### Legumes and mental health

Plant-based dietary patterns that include legumes are inversely associated with the risk of depression, reduced depressive symptoms<sup>(23, 41-45)</sup> and enhanced cognitive performance, including memory and executive function<sup>(46-48)</sup>. These dietary patterns are also linked to reduced perinatal depression<sup>(49)</sup>.



### Legumes and mortality

Legumes, as part of plant-based diets, reduce risks of all-cause and cardiovascular mortality<sup>(50, 51)</sup>. Substituting plant proteins like legumes for red and processed meats further decreases mortality and chronic disease risks<sup>(12, 13)</sup>.



**Regular legume consumption can contribute to improved overall health, yet most Australians do not consume enough. Health professionals can confidently recommend legumes as a valuable part of a healthy diet, offering health, economic and environmental benefits.**

**For 50 delicious legume recipes and tips, head to [ginc.org.au](http://ginc.org.au)**



For the full list of references, scan the QR code