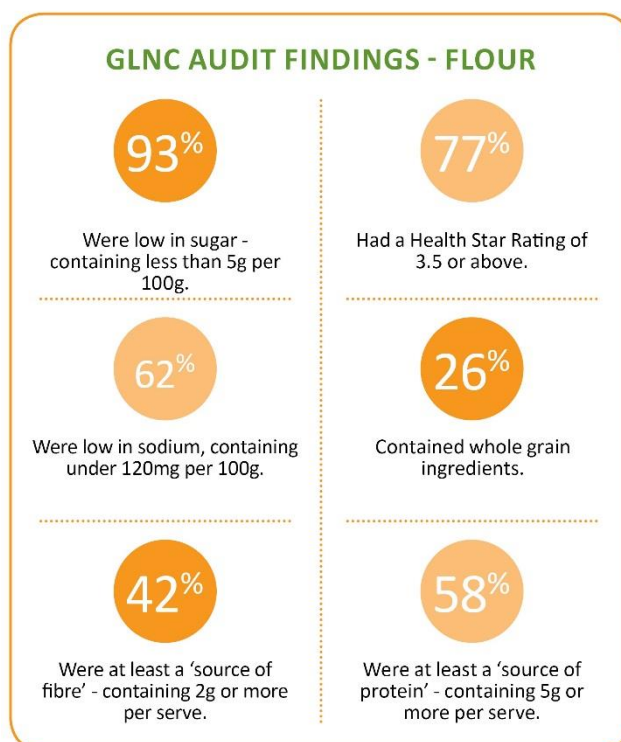
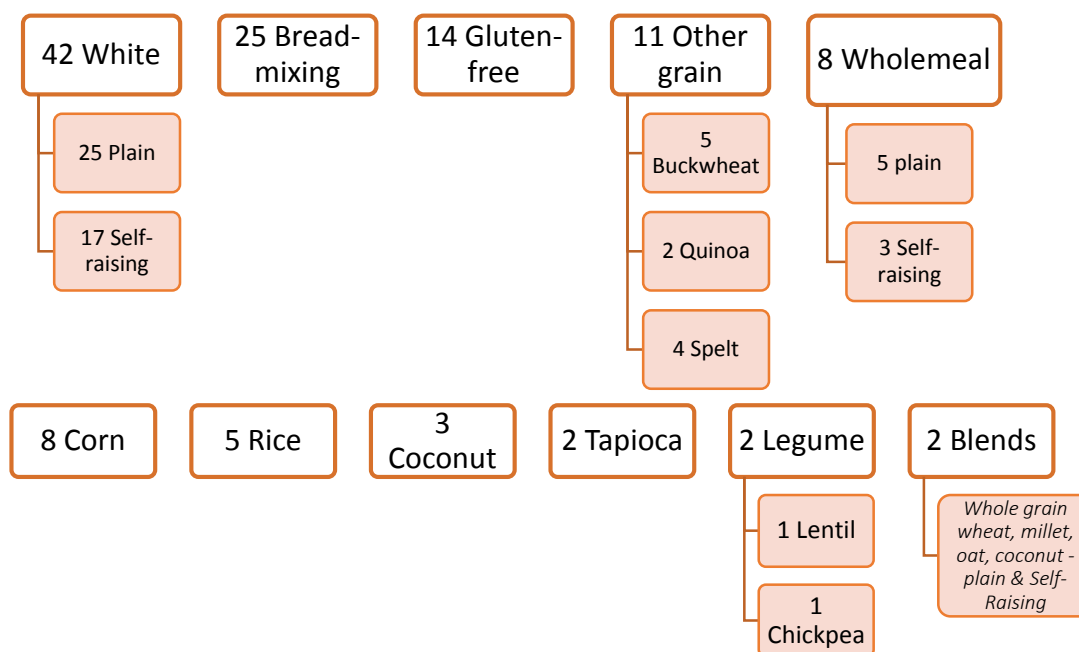


FLOUR AUDIT

Flour is a staple ingredient found in most people's kitchens, but the category is ever-expanding, with a range of new and innovative products hitting the baking aisle. In July 2018, GLNC conducted their first audit on flours and captured **122** flour products from the four major supermarkets in Sydney, including:

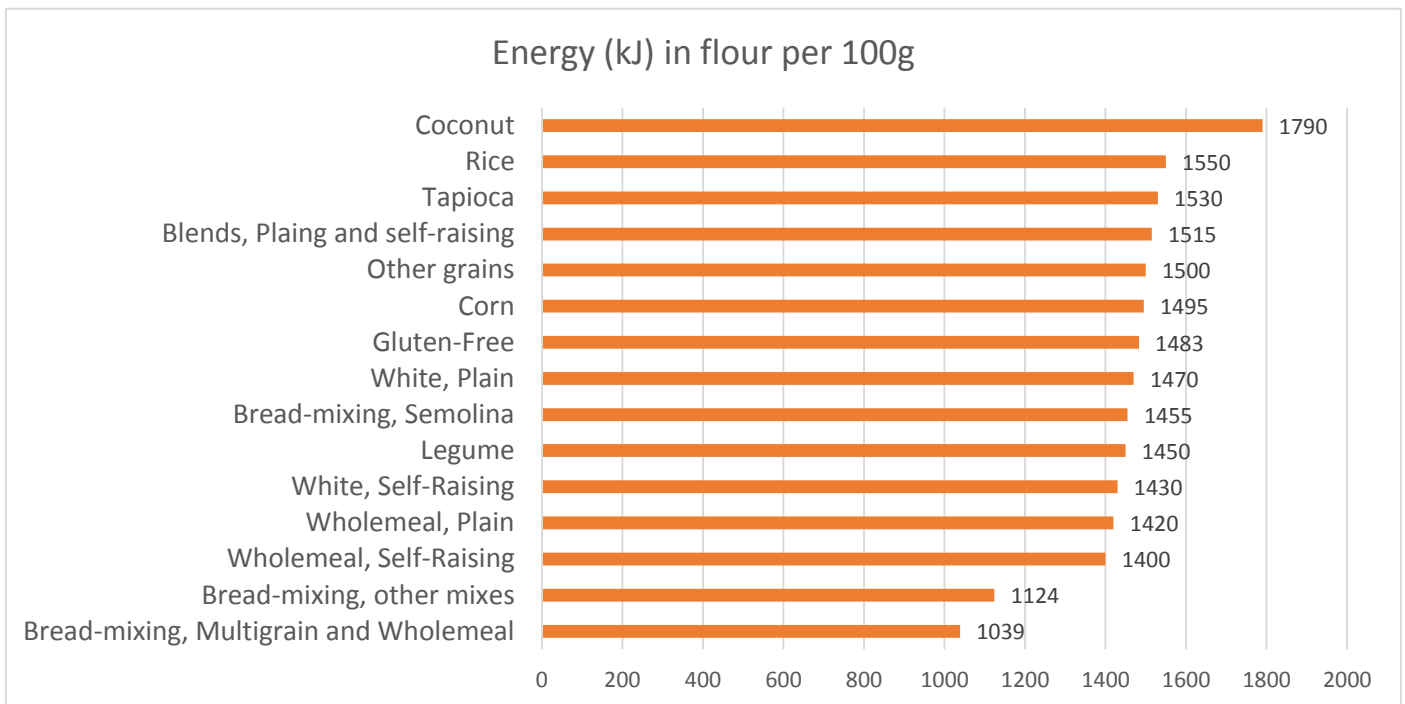


Grains & Legumes Nutrition Council Limited ABN 22 117 442 510

Level 1, 40 Mount Street, North Sydney NSW 2060

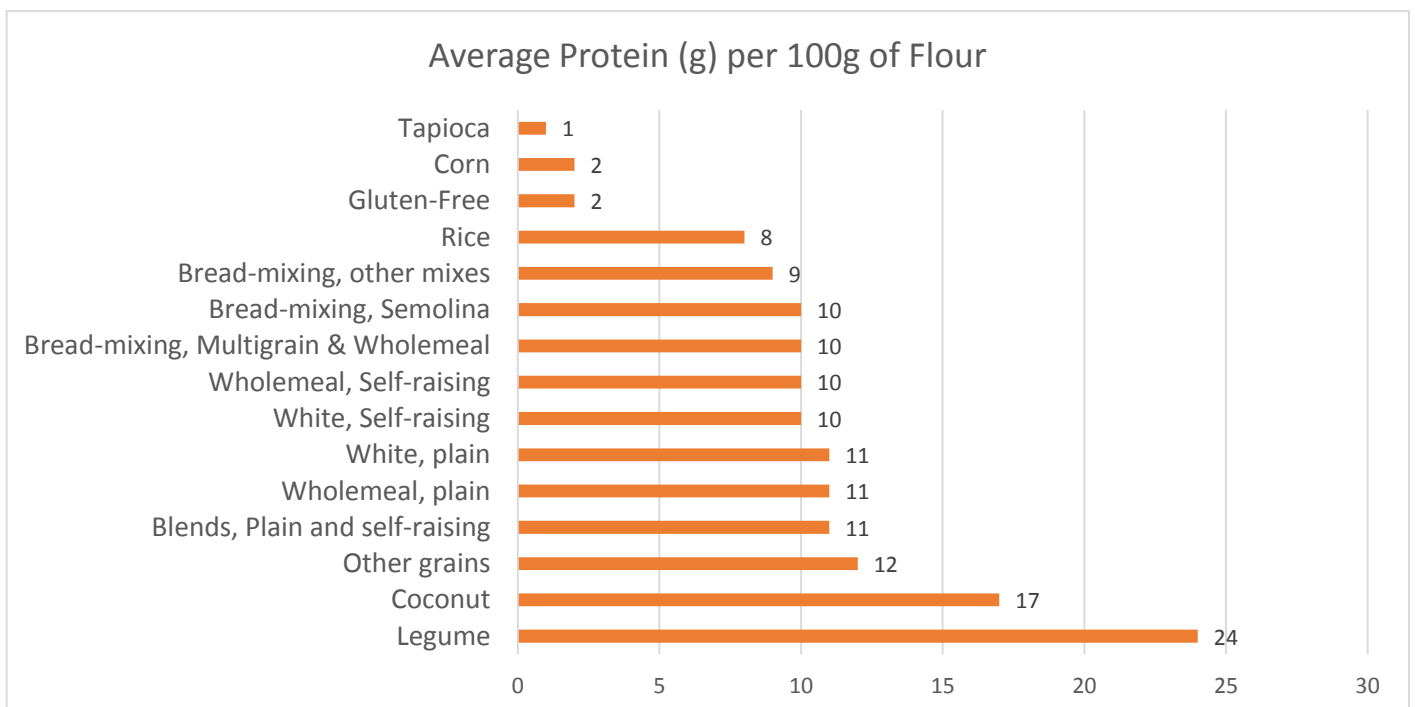
Phone: 02 9394 8661 • www.glnc.org.au • contactus@glnc.org.au

Energy:



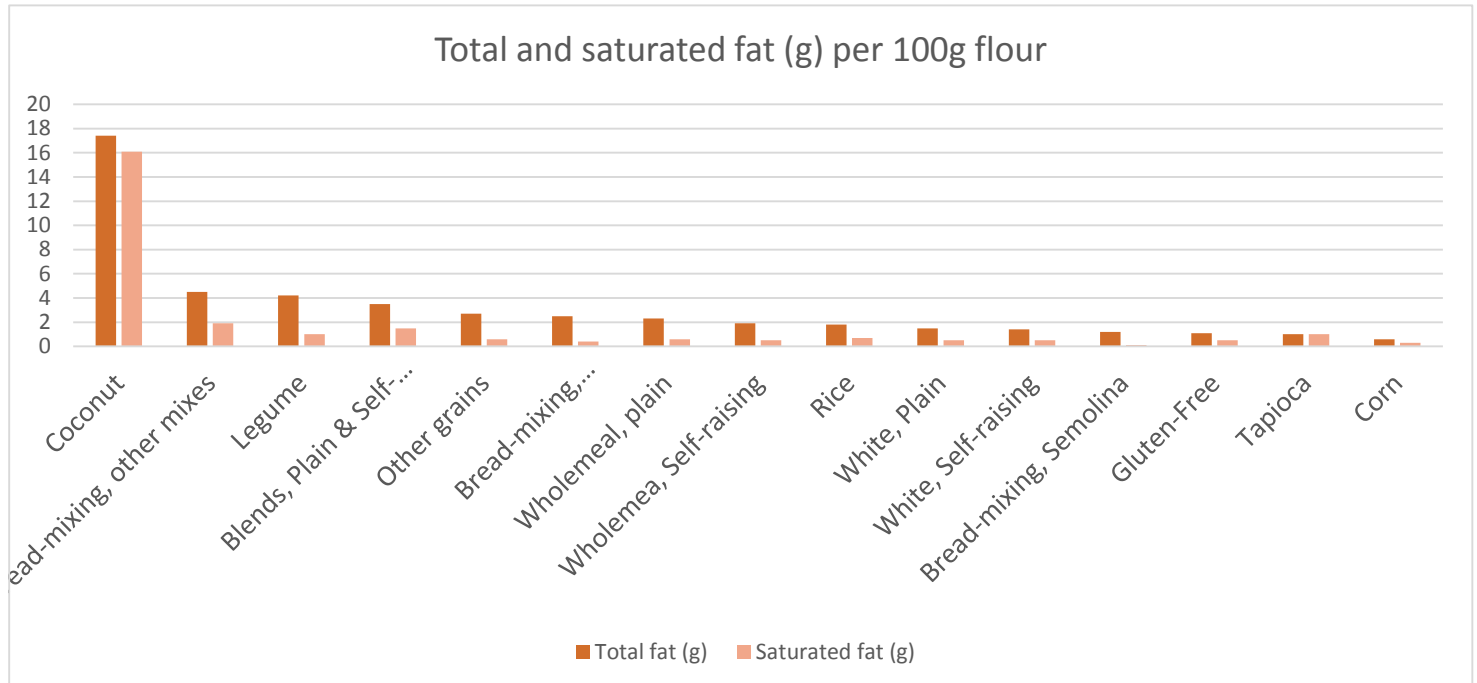
Coconut flour was the highest in energy (1790kJ/100g), while **multigrain and wholemeal bread-mixing flours** was the lowest, at 1039kJ/100g. Other flours had similar meal values, ranging from 1400 – 1556kJ/100g.

Protein:



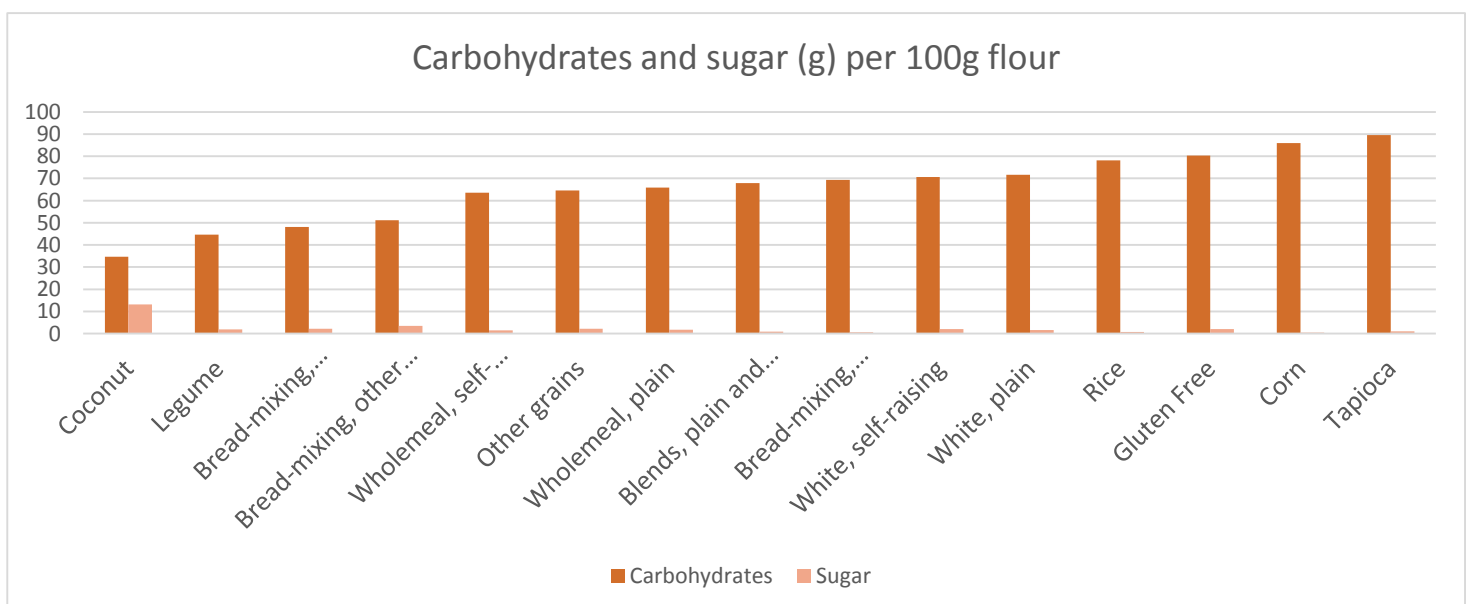
Legume and coconut flour were the highest in protein, while tapioca, corn, gluten-free flour were the lowest. Other flours had similar mean values ranging from 8-12g/100g

Fat, total and saturated:



Coconut flour had the highest total, and saturated fat by far (17.4g and 16.1g/100g respectively). All others were fairly similar, with an average of 3.5g fat, and 0.7g saturated fat/100g).

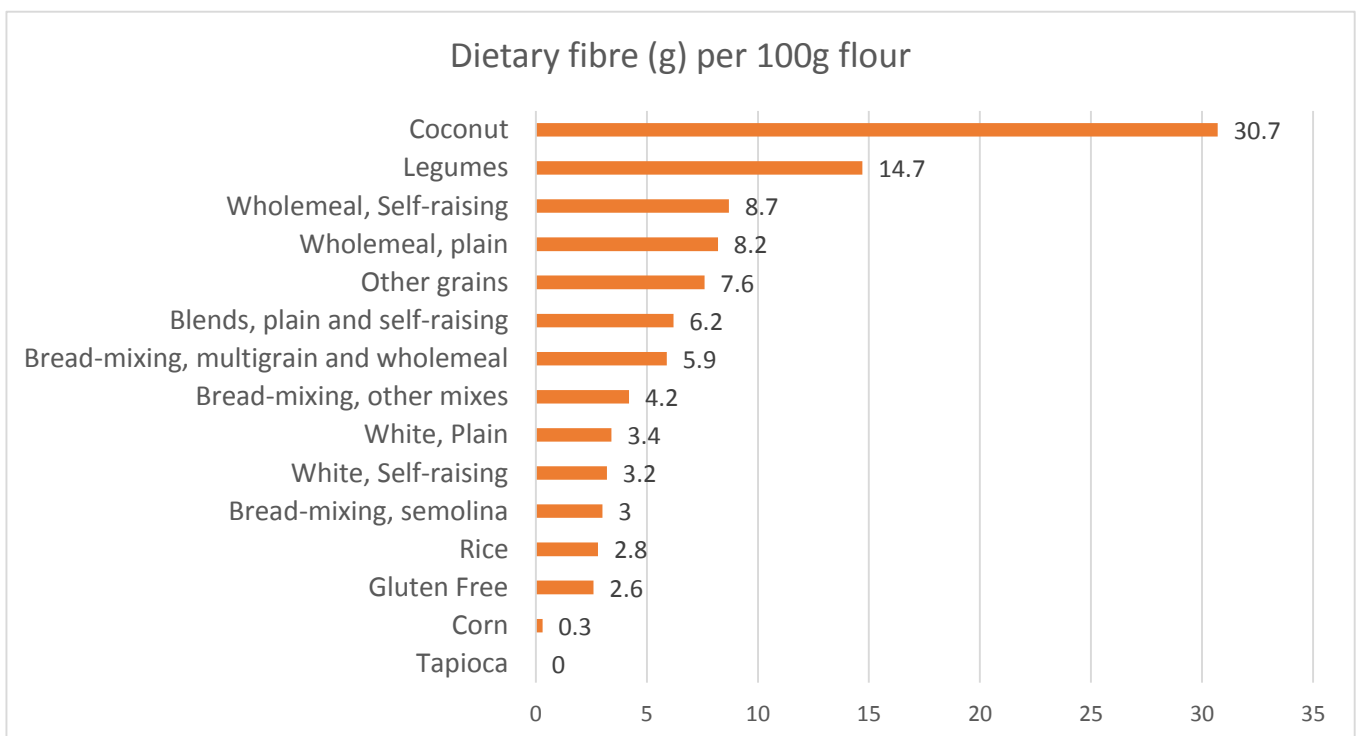
Carbohydrates and sugar:



Tapioca flour had the highest mean carbohydrate content (89.5g/100g), followed by **corn flour** (86g/100g), **gluten free flour** (80.3g/100g) and **rice flour** (78.2g/100g). In contrast, **coconut flour** had the lowest mean carbohydrate content of 34.6g/100g followed by **legume flour** at 44.6g/100g. Total carbohydrate content in **white flour** was slightly higher than that in **wholemeal flour**.

Coconut flour had the highest total sugar content at 13.1g/100g, significantly higher than other flours, which had an average of 1.5g/100g.

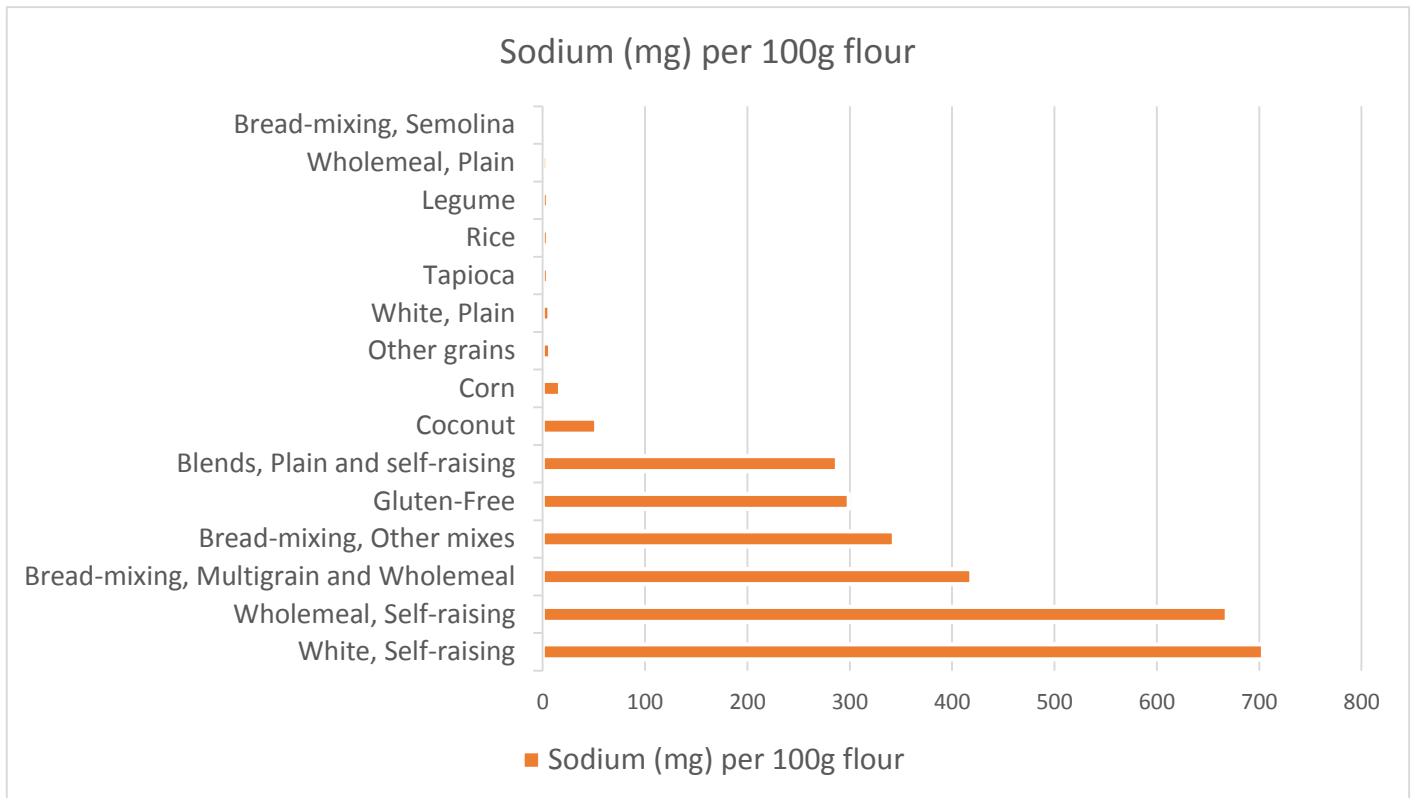
Dietary Fibre:



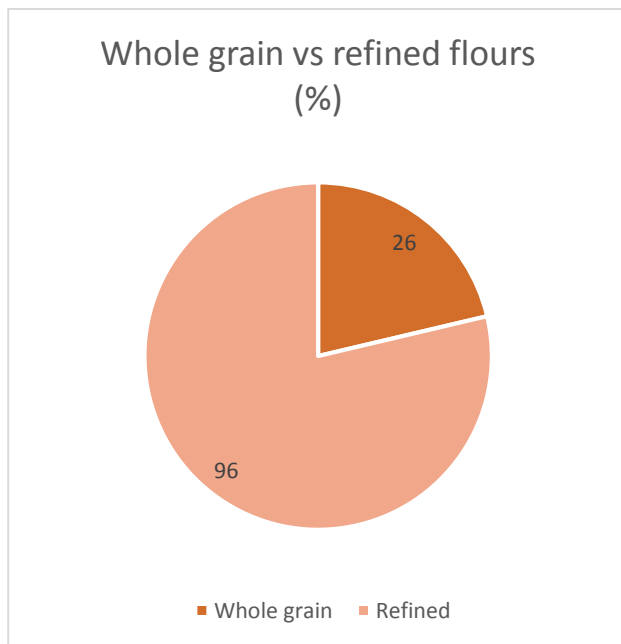
Coconut and **legume flours** had the highest dietary fibre content (30.7g/100g and 14.7g/100g, respectively), while **tapioca** and **corn flour** were the lowest, with 0, and 0.3g/100g respectively.

Wholemeal flour had up to 60% more fibre when compared with **white**.

Sodium:



Self-raising flours had the highest sodium (~685mg/100g) - 30% of the 2000mg Suggested Daily Target!¹



Whole grain:

21% of all flours were whole grain (n=26), with four products registered with GLNC's Code of Practice for Whole Grain Ingredient Content Claims (The Code).

ouncil Limited ABN 22 117 442 510

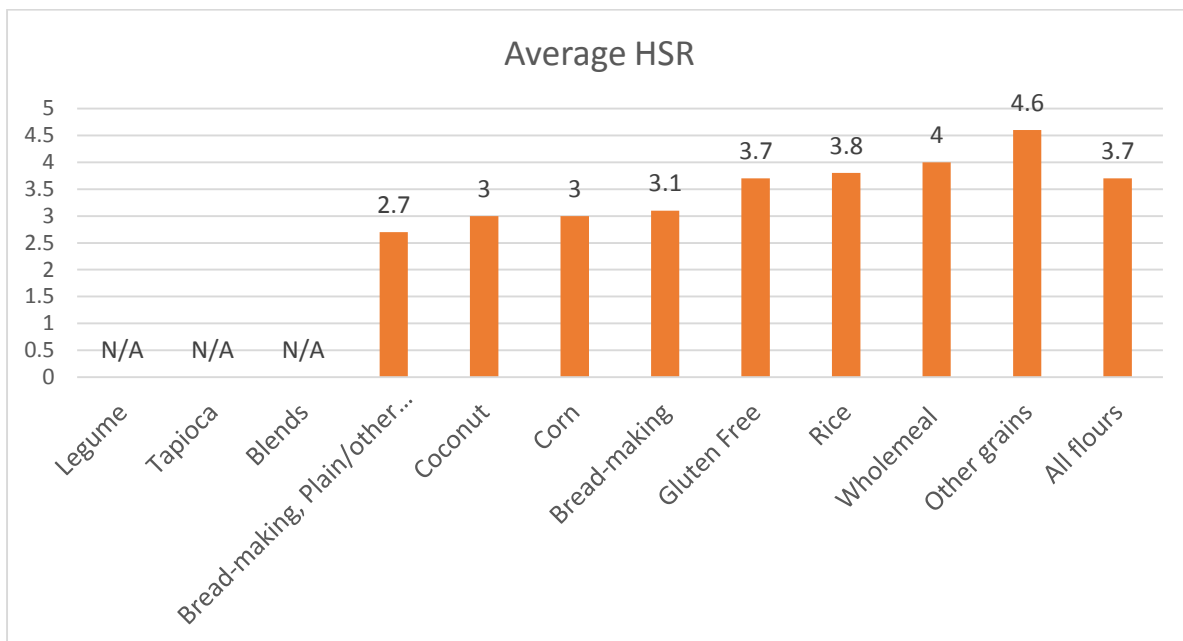
Level 1, 40 Mount Street, North Sydney NSW 2060

Phone: 02 9394 8661 • www.glnc.org.au • contactus@glnc.org.au

Legumes:

Only two legume-based flours were identified – one **chickpea**, and one **lentil** flour. They were the highest protein of all flours (23g/100g), double that of wholemeal flour (which had 11.6g/100g), eight times that of gluten-free flour (2.5g/100g). Legume flours were also an excellent source of fibre, with double the amount required to make a claim on-pack (14g/serve), and 80% more fibre than wholemeal flour.

Health Star Rating (HSR):



25% of all products (n=30) displayed a HSR, with a Mean HSR of 3.7. The highest mean HSR was 4.6, in other grains, likely as they were high in fibre, low in sodium, and with no added sugar. The lowest mean HSR was 2.7 in plain and other bread mixes, which had added salt, butter milk, vegetable fat, and oil. **Legume, blends, and tapioca flours** did not display a HSR.

Top tips:

- **Choose wholemeal flour**
 - It has 60% more fibre than white flour
 - In baking, try a mix of half white, half wholemeal flours
- **Experiment with the many new varieties of flour on shelf (such as legume, other grains, blends)**
 - They can be higher in protein, fibre, and other vitamins and minerals
 - They're more accessible than ever in the baking/flour aisle
- **If you avoid gluten, try using naturally gluten free flours (legume, buckwheat, quinoa)**
 - They are more nutritious than many gluten-free mixes, with more protein and fibre.

¹ Nutrient Reference Values for Australia and New Zealand: Sodium <https://www.nrv.gov.au/nutrients/sodium>