

The glycaemic index of more breads, breakfast cereals and snack products

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The Glycaemic Index (GI) is a scientifically based method of assessing and comparing the postprandial blood glucose response (glycaemic response) to carbohydrate-containing foods. It compares foods on an equal-carbohydrate basis and ranks them according to their glycaemic impact by comparison to a standard food (usually glucose or white bread). Two recent studies from Harvard University in male and female health professionals have shown that diets with a high glycaemic load and low cereal fibre content more than double the risk of developing Type 2 diabetes (2,3). Thus the GI of foods is relevant to the large majority of people at risk of worsening insulin resistance with age. Interest in the GI has stimulated the food industry to request the testing of individual brand-name food products. We present here new data for Australian breads, breakfast cereals and snack products.

Groups of 9-12 healthy volunteers from a pool of 30 with normal glucose tolerance took part. Their ages ranged from 21 to 39 years (mean \pm SD 31 ± 6) and their body mass index (BMI) from 19 to 24 (22 ± 2). The subjects took 50 g available carbohydrate (starch + sugars) portions of each test food in random order on separate mornings after an overnight fast. The reference food (white bread) was tested 1-2 times over the period depending on the duration of testing. Individual GI values were multiplied by the factor 0.7 in order to express the final results on a scale where GI of *glucose* = 100. The results are shown in the table as mean \pm SE (n = 10-12).

Breads	GI	Breakfast cereals (Kelloggs')	GI	Snack Products (Mars)	GI
(Tip Top)					
Bürgen Soy Lin (Soy & Linseed)	19 \pm 3	All Bran Fruit 'n Oats	41 \pm 9	Chocolate (Dove)	45 \pm 8
Bürgen Fruit Loaf	44 \pm 5	Guardian	37 \pm 9	M & Ms (peanut)	33 \pm 3
Bürgen Mixed Grain	34 \pm 4	Honey Smacks	71 \pm 10	Mars Bar	62 \pm 8
9 Grain Multigrain	43 \pm 5	Mini-Wheats (blackcurrant)	72 \pm 10	Skittles	70 \pm 5
Holsom's	46 \pm 5	Just Right	60 \pm 15	Snickers Bar	41 \pm 5
				Twix Cookie Bars (caramel)	44 \pm 6
Miscellaneous		Sports Bars		Kudos Whole Grain Bars (chocolate chip)	62 \pm 8
Nutella (Ferrero)	33 \pm 4	VO ₂ Max Energy Bar (chocolate) (Mars)	49 \pm 8		
So Good (Sanitarium)	31 \pm 5	Power Bar (Powerfood Inc)	58 \pm 5		

These findings increase the range of recognised low GI foods. All the Bürgen breads had a low GI (ie GI \leq 55), in particular the Bürgen Soy & Linseed loaf had one of the lowest GI values ever tested. Other newly discovered low GI foods include 9 Grain and Holsom's breads, Kelloggs' Guardian and All Bran Fruit 'n Oats breakfast cereals and Sanitarium So Good soy milk. As expected, many of the chocolate snack products had a low GI, because of their high fat content. Nonetheless, a high sugar-low fat item such as Skittles had a GI similar to that of bread. Interestingly, the two sports bars had GI values on the low side.

1. Salmeron J, Manson JE, Stampfer MJ, Colditz GA, Wing AL, Willet WC. Dietary fiber, glycemic load and risk of non-insulin-dependent diabetes mellitus in women. *JAMA* 1997; 277:472-7.
2. Salmeron J, Ascherio EB, Rimm GA, Colditz D, Spiegelman D, Jenkins DJ, Stampfer MJ, Wing AL, Willet WC. Dietary fiber, glycemic load, and risk of NIDDM in men. *Diabetes Care* 1997; 20: 545-50.