

# **Glycemic Index Research Report #1535**

**For Hermanbrot Pty Ltd.**

**June, 2015**

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**Sydney University's**

**Glycemic Index Research Service (SUGiRS)**

**School of Molecular Bioscience**

**Charles Perkins Centre, D17**

**University of Sydney, NSW, 2006**

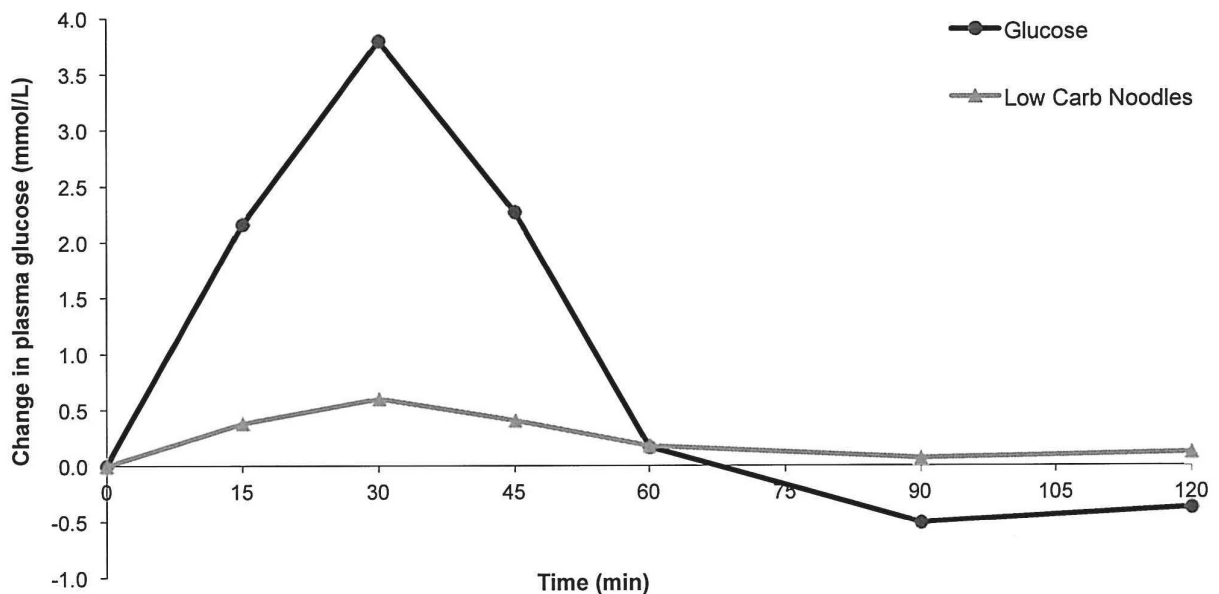
**AUSTRALIA**

## Results

### The average glycemic response curves for the reference food and the test noodles

The average two-hour plasma glucose response curves for the 25-gram carbohydrate portions of the reference food and the Low Carb High Protein Noodles are shown in Figure 2 below. The reference food produced a rapid initial rise in plasma glucose response to a high peak concentration at 30 minutes and the greater overall glycemic response. The Noodles produced a small rise in glucose concentration to a low peak plasma glucose response at 30 minutes followed by a steady decrease in glycemia between 30 – 120 minutes. The plasma glucose response produced by the test product remained above the baseline fasting concentration during the second hour of the experimental period.

**Figure 2.** The average plasma glucose response curves for the equal-carbohydrate portions of the reference food and the Low Carb High Protein Noodles, shown as the change in plasma glucose from the fasting baseline level.



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## Conclusions

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Using glucose as the reference food (GI = 100), foods with a GI value less than 55 are currently considered to be low-GI foods (12, 13). Foods with a GI value between 56-69 are medium- or moderate-GI foods, and foods with a GI value of 70 or more are high-GI foods. The Low Carb High Protein Noodles tested in this study produced an average GI value of 22, which places this product well within the low GI category. Therefore, the Noodles would be suitable for consumption by people with diabetes in controlled amounts in line with their individual dietary requirements.

GI values are measured using portions of foods and drinks that contain either 25 or 50 grams of digestible carbohydrate, but these may not be similar to the amounts of these products typically consumed by people in normal environments. It is possible to calculate a glycemic load (GL) value for any sized portion of a carbohydrate-containing food, as long as you know its GI value. The GL value for a food or drink is calculated by multiplying the amount of available carbohydrate in the portion of the food or drink by its GI value and then dividing by 100.

Similar to GI values, GL values are useful for helping people identify which types and amounts of foods will produce relatively lower blood glucose responses after consumption – an important consideration for people with diabetes and those at risk of developing it. An average 80-gram dry serve of the Low Carb High Protein Noodles contains a total of 12.5 grams of digestible carbohydrate. Therefore, the GL of an average serve of Noodles is  $(12.5 \times 22)/100 = 3$ . Currently, the consensus is that GL values of 10 or less are low GL; GL values between 11 – 19 are medium GL values; and GL values of 20 or more are high GL values (13).

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## Sydney University's Glycemic Index Research Service

**SUGiRS**

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The GI values of foods must be tested scientifically. At this stage, only a few research groups around the world currently provide a legitimate testing service. The Human Nutrition Unit at the University of Sydney has been at the forefront of glycemic index research for over a decade and has determined GI values for more than 3000 foods. In 1999, the Human Nutrition Unit established a commercial GI testing unit called 'Sydney University's Glycemic Index Research Service' (SUGiRS) to meet the increasing demand for GI research by local and international food manufacturers and pharmaceutical companies.

Fiona Atkinson and Professor Jennie Brand-Miller are co-authors of *The International Tables of Glycemic Index* published by the scientific journal, *Diabetes Care*, in 2008. Previous editions of the International Tables (published in 1995 and 2002) have proven to be an important reference for health professionals when planning therapeutic diets for people with diabetes. Prof Brand-Miller's books, *The GI Factor* and related pocket books on diabetes, heart disease and weight reduction, are aimed at lay people and health professionals, and have sold more than 150,000 copies in Australia since 1996. A British edition of *The GI Factor* was released in 1997 and a North American edition (*The Glucose Revolution*) was released in July 1999. Each edition of the book includes tables listing the GI values of more than 350 different foods, many of which were tested at the University of Sydney. The glycemic index has been discussed in a number of best-selling books and in magazine articles in relation to a range of health topics such as diabetes, breast cancer and weight control. Publications such as these and ongoing research promoting the healthy nature of low-GI foods have generated an increasing demand for GI research.