

# Using low GI fruit to create slow release energy snacks

Research has confirmed that Taura Natural Ingredients' URC® fruit pieces and pastes are low GI, opening the door to exciting new marketing opportunities in the healthy snacking category



# Introduction

The speed at which a food releases its energy into the bloodstream is measured using the Glycaemic Index (abbreviated to GI).

The GI system rates foods as low, medium or high. Low GI foods are best for our health because they release energy slowly into the bloodstream, which can help to control blood glucose levels. In turn, this can help to keep hunger at bay so that we eat less. As a result, there is increasing evidence to show that carbohydrate-containing foods that release energy into the bloodstream more slowly can play an important role in helping people to maintain wellbeing and stay at a healthy weight<sup>1</sup>.

The benefits of low GI foods present an excellent marketing opportunity – and an increasing number of products are being promoted globally using low GI-related health claims. Now it is possible to do this with fruit snacks, after independent testing confirmed that the concentrated fruit products manufactured and supplied by Taura Natural Ingredients (Taura) are low GI and therefore offer slow release energy.

## Understanding the glycaemic index

The GI system classifies foods containing carbohydrates according to their effect on blood sugar levels after consumption. Foods are assigned a numerical value, which determines whether they are low GI, medium GI or high GI (see Table 1). The reference standard for measuring GI is normally glucose, which has a GI value of 100.

**Table 1. GI classifications explained**

GI RATING	GI VALUE
Low	<55
Medium	56-69
High	>70

Carbohydrates with a low GI (55 or less) cause the body's blood glucose to rise slowly and fall gently over a period of time – which translates into slow release energy. Carbohydrates with a high GI (over 70) are digested and absorbed quickly, causing blood glucose levels to surge and then crash, which can make us feel hungry again more quickly.

The benefits of low GI foods that offer slow release energy are potentially significant. In 2010 the EU-funded Diogenes study – the world's biggest ever weight management study, carried out across eight European research centres – showed that high protein low GI diets were the most effective for maintaining a healthy weight<sup>1</sup>.

In addition to general weight management, studies have demonstrated many other benefits of a low GI diet, such as:

- Helping people who are overweight and obese to lose weight<sup>1,2,3,4</sup>
- Managing type 2 diabetes<sup>2,4</sup>
- Reducing the risk of cardiovascular disease<sup>2,4</sup>
- Combatting age-related macular degeneration<sup>2</sup>

The body of scientific evidence is strong, and shows that eating a diet rich in low GI foods is an excellent strategy to support long-term good health. This paves the way for new product development and marketing opportunities for food products that are able to carry a low GI-related message.

It's a strategy that has already been used successfully for a wide range of products globally, including breakfast goods and pasta. Now the research conducted by the University of Otago in New Zealand means the same opportunities are available for fruit snacks made with Taura's low GI URC® fruit products.

## New evidence for low GI URC® fruit

Researchers at the University of Otago tested five of the most popular flavours in Taura's URC® JusFruit™ range of fruit pieces and pastes<sup>5,6</sup>.

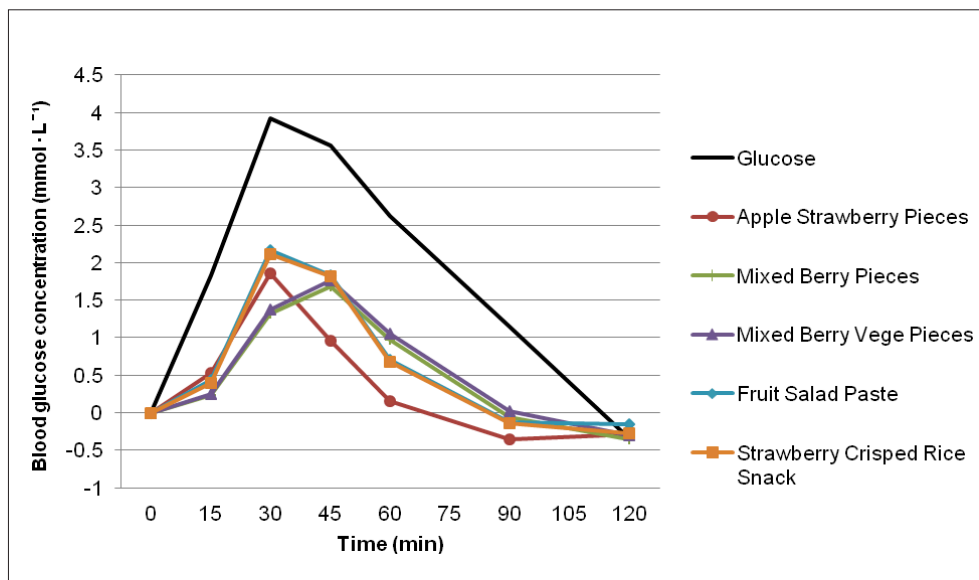
- URC® JusFruit™ Apple Strawberry Pieces
- URC® JusFruit™ Mixed Berry Pieces
- URC® JusFruit™ + Vege Berry & Vege Pieces
- URC® JusFruit™ Fruit Salad Paste
- URC® Inclusion™ Apple Strawberry Pieces with Rice Crisp Inclusions

The University of Otago used the standard international protocol for GI testing, according to ISO 26642:2010(E), and measured glycaemic response after consuming fruit portions containing 50g of available carbohydrate. All five products delivered a GI value below 55,

**Table 2. GI values of URC® fruit pieces recorded at University of Otago**

URC® FRUIT PRODUCT	MEAN GI VALUE
Apple Strawberry Pieces	32 (low)
Mixed Berry Pieces	43 (low)
Berry & Vege Pieces	35 (low)
Fruit Salad Paste	39 (low)
Apple Strawberry Pieces with Rice Crisp Inclusions	40 (low)

**Figure 1. Incremental blood glucose response (area under the curve) of apple strawberry pieces, mixed berry pieces, mixed berry vege pieces, fruit salad paste and strawberry crisped rice snack versus a glucose reference in healthy participants (n = 12).**



consistent with that of a low GI food (see Table 2 and Figure 1 for full details).

The University of Otago test results pave the way for the use of low GI-related claims by companies who are marketing no-added sugar fruit snacks based on URC® JusFruit™ and URC® JusFruit™ + Vege ingredients.

Possible applications include:



Fruit bars



Trail mixes



Fruit-filled bars



Fruit cereal bars



Breakfast fruit cluster



Fruit & vege pieces

## More than just low GI

Besides their low GI classification, Taura's URC® JusFruit™ products offer a number of other benefits. They are made from ingredients derived only from fruit, with no artificial colours, flavours or preservatives and do not contain any added sugar. In contrast most confectionery products contain added sugars.

Taura's unique URC® (Ultra Rapid Concentration) technology is a proprietary concentration process that employs physical and mechanical forces to remove water quickly from real fruit purées and blends, in a way that is suitable even for heat-sensitive fruits. The fruit sugars are not caramelised and the resulting concentrate retains the clean flavour, colour and nutritional characteristics of the raw materials.

Taura has a wealth of expertise in developing novel fruit snack concepts using URC® technology. Low GI snacks made with Taura's URC® fruit pieces can help manufacturers meet the growing demand for delicious snacks that can also promote long-term health.

## About Taura Natural Ingredients

Taura is the leading global concentrated fruit products company, delivering exceptional taste and functionality. Using Ultra Rapid Concentration (URC®) technology, Taura produces fruit pieces, flakes and pastes for a wide range of products, including snacks, baked goods, cereals, chocolate and confectionery. Taura has sales and manufacturing operations in New Zealand, Belgium and a sales operation in Virginia, USA.

**For more information visit [www.tauraURC.com](http://www.tauraURC.com).**



## References

1. *Diets with High or Low Protein Content and Glycemic Index for Weight-Loss Maintenance* Larsen, et al, *New England Journal of Medicine*, 2010; 363 (22): 2102 DOI: 10.1056/NEJMoa1007137 <http://www.nejm.org/doi/full/10.1056/NEJMoa1007137>
2. *Informing food choices and health outcomes by use of the dietary glycemic index*, Chung-Jung Chiu et al, *Nutr Rev.* 2011 April; 69(4): 231–242.
3. *Effects of Dietary Composition on Energy Expenditure During Weight-Loss Maintenance*, Ebbeling et al, *JAMA*, 2012;307(24):2627-2634. doi:10.1001/jama.2012.6607.
4. *Effects of dietary glycaemic index on adiposity, glucose homoeostasis, and plasma lipids in animals*, Pawlak, Kushner and Ludwig, *The Lancet*, Volume 364, Issue 9436, Pages 778 - 785, 28 August 2004
5. *Report on the Glycemic Index of Two Flavours of URC Fruit Pieces by Dr Tracy Perry & Mrs Michelle Jospe Glycemic Index Otago, April 2013*
6. *Report on the Glycemic Index of Three Flavours of URC Pieces, Fruit Salad Paste, and Strawberry Crisped Rice Snack by Dr Tracy Perry & Miss Hannah Gentle Glycemic Index Otago, December 2013*