A bioflavonoid in sugar cane can reduce the postprandial glycaemic response to a high-GI starchy food

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Background – Current dietary guidelines recommend the consumption of a diet based on fresh fruit and vegetables and wholegrain cereal products. However, most people prefer refined rather than wholegrain versions of cereal products, which tend to have relatively high glycaemic index (GI) values. There has been recent interest in determining whether the addition of certain compounds, such as soluble fibres and alpha-amylase inhibitors, to high-GI cereal products can help lower the glycaemic responses produced by high-GI foods.

Objective – To determine whether a bioflavonoid extracted from sugar cane, which has been shown to inhibit alpha-glucosidase and alpha-amylase activity in vitro, could effectively reduce the postprandial glycaemic response to a high-GI meal (wheat biscuits with milk).

Design – A group of 10 healthy, non-smoking, normal-weight young adults with normal glucose tolerance were recruited to consume each of the following four test meals on separate mornings: wheat biscuits with milk alone (control meal) or with 15, 50, or 100 mg of sugar cane bioflavonoid. Standard GI methodology was used to determine a GI value for each test meal using glucose as the reference food (GI value of glucose = 100).

Outcomes – The GI value of the control meal was significantly greater than the GI values of the other three test meals (15 and 100 mg extract: $p < 0.05$; 50 mg extract; $p < 0.01$). There were no significant differences among the mean GI values of the three extract test meals.

	Control meal	Meal + 15 mg extract[1]	Meal + 50 mg extract[1]	Meal + 100 mg extract[1]
GI value (%)[1] (GI category)	72 ± 7 (High)	57 ± 7 (Medium)	46 ± 5 (Low)	54 ± 4 (Low)

[1] mean ± SEM

Conclusions- The bioflavonoid extract effectively reduced the GI value of a high-GI starchy meal by up to 37% without any apparent side effects. Further research is required to determine whether the bioflavonoid remains effective if incorporated into food during processing and cooking.