

Glycemic Index of Coconut Palm Sugar

The Glycemic Index (GI) of Coconut palm sugar is 35. Glycemic Index (GI) is the glucose response of an individual from food relative to a standard glucose solution. Low GI food is good for proper control and management of diabetes mellitus (type II diabetes) and has been shown to lower total and LDL cholesterol. It is also good for weight maintenance therefore prevents overweight and obesity.

The Philippine Food and Nutrition Research Institute used the following procedure to determine the Glycemic Index (GI) value of coconut palm sugar:

Fifty grams (240 ml) standard glucose tolerance test beverage (Medic Orange 50, Product no. 089) and fifty (50) grams of coconut palm (*Cocos nucifera*) sugar was fed in random order to ten (10) human subjects.

- Blood samples (0.3-0.4 ml) were collected after feeding through finger prick using a 7ml Vacutainer at zero (0) hour, and thereafter at every 15 min interval for 1 hour, and every 30 min or the next hour.
- The serum was separated from the blood using a refrigerated Effendorf centrifuge, and analyzed for glucose levels on

the same day using a Clinical Chemistry Analyzer after calibration with the glucose standard (Glucifix Reagent1: Menarini Diagnostics, Firenze, Italy).

- The blood sugar levels of the ten (10) healthy human subjects given coconut palm sugar and reference glucose food samples were graphed against the time of study. The incremental area under the glucose response curve (IAUC) of the coconut palm sugar was calculated geometrically ignoring the area below the fasting level (Wolever et al., 1991). The Glycemic Index (GI) of the coconut palm sugar was calculated as $GI = \frac{IAUC \text{ of the test food}}{IAUC \text{ of standard glucose}} \times 100$. It's index value is 35.

Glycemic Index and Glycemic Load

Glycemic Index takes into account the quality of the carbohydrate in a food and ignores its quantity. A glycemic index value therefore tells us only how rapidly a particular carbohydrate turns into sugar. It doesn't tell how much of that carbohydrate is in a serving of a particular food. Both the things are

important to understand food's effect on blood sugar.

Glycemic load considers the quality and the quantity of carbohydrate content of the foods.

The following table gives a values for low, medium and high glycemic load for foods.

- Low GI = 55 or less
- Medium GI = 56 - 69
- High GI = 70 or more

*Values are with reference to Glucose. Foods that have a low glycemic index invariably have a low glycemic load, while foods with an intermediate or high glycemic index range from very low to very high glycemic load. Therefore, you can reduce the glycemic load of your diet by limiting foods that have both a high glycemic index and a high carbohydrate content.

The glycemic index value alone does not give accurate picture of the food. The glycemic load (GL) takes both the things into account. The glycemic load is the glycemic index divided by 100 multiplied by its available carbohydrate content. The glycemic load of coconut palm sugar is 1.4, or 1 when rounded off.

Health benefits of coconut water

- ✓ It has significant anti-ageing and anti-carcinogenic properties which helps to minimize skin aging and keeps the connective tissue hydrated and strong.
- ✓ Regular consumption of coconut water increases the metabolism rate which helps to burn sugar and loses fat faster.
- ✓ Coconut water helps in dissolving kidney stones because of the presence of potassium, which plays a key role in urine alkalizing and preventing formation of kidney stones.
- ✓ Coconut water helps in easy digestion. The water has minerals like calcium, manganese and zinc that help in replenishing the body.
- ✓ Coconut water has less sugar and sodium content and has high content of potassium, calcium and chloride which helps to hydrate, replenish and rejuvenate the body.
- ✓ Coconut water is rich in calcium and is needed for healthy bones, muscles and also tissues.
- ✓ Coconut water helps to control diabetes. It has the ability to improve blood circulation, widen the blood vessels which get restricted due to the formation of plaque within them and helps the blood to flow smoothly through them.
- ✓ Coconut comes as a great aid in lowering blood pressure.