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WATERMELON VERSUS DONUT: EQUALLY UNHEALTHY?

You may think a slice of watermelon would be the healthier choice over a donut (and you would be right), but did you know that both foods are considered to have rather high sugar content according to the *Glycemic Index* (GI) scale? The GI is useful for understanding how the body breaks down carbohydrates. But, the *Glycemic Load* (GL) is a number assigned to a food that estimates how much that food will raise a person's blood glucose level after eating it. Knowing the GL of a food in addition to where it lands on the GI scale can make all the difference in your future food choices.

You've heard it since you were a child: consuming excess sugar is bad for your health. However, there's an actual condition it can lead to called *Metabolic Syndrome*. This condition is characterized by high blood pressure, high blood sugar, unhealthy cholesterol levels and abdominal fat. Excess sugar also contributes to widespread inflammation throughout the body, and even leads to a higher risk of developing cardiovascular disease and type 2 diabetes.

When eaten in an uncontrolled manner and at high levels, sugar can harm organs as well. We know it can have damaging effects on the pancreas and insulin secretion. Too much sugar circulating in the body starts to react with cell tissues and blood vessels in the brain, the eyes, the heart muscle and all types of blood vessels leading to wide-spread damage.

GLYCEMIC INDEX VS. GLYCEMIC LOAD

The Glycemic Index (GI) is a number associated with a particular type of food that indicates the food's effect on a person's blood glucose (also called blood sugar) level. The GI represents the total rise in a person's blood sugar level following consumption of a food; it may or may not represent the rapidity of the rise in blood sugar. The steepness of the rise can be influenced by a number of other factors, such as the quantity of fat eaten with the food.

While the GI is a useful tool for understanding how the body breaks down available carbohydrates (total carbohydrate minus fiber), it doesn't take into account fats and other components that contribute

to the total rise in blood sugar. This is where the Glycemic Load (GL) provides useful feedback. The concept of GL was developed by scientists to simultaneously describe the quality and quantity of carbohydrates in a food serving, meal, or diet.

Consider the example of the watermelon and donut. The GI of watermelon is 72, which is almost as high as the GI of a doughnut which is 76. Yet, one serving of watermelon provides 11g of available carbohydrates, while a medium donut provides 23g of available carbohydrates. That is an over 50 percent difference in how quickly an available carbohydrate can raise your blood glucose level.

It's a common misconception that all low-GI foods are healthy foods. While this is generally the case, it is not always true. Parsnips, strawberries and bananas are widely considered to be healthy foods, and yet they all rate as intermediate-to-high foods on the GI scale. But, on the GL scale, one cup of strawberries rates a 13, bananas are a 16 and parsnips are only a 4.

THE HIGHS AND THE LOWS

For a typical serving of a food, the GL scale would be:

- 10 or less = low (good)
- 11 - 19 = medium
- 20 or above = high (bad)

Using our original example, despite similar GIs, one serving of watermelon has a GL of 4, while a medium-sized doughnut has a GL of 205.

Meanwhile, a GI scale works by rating numbers from low (good) to high (bad). The smaller the number, the less impact the food has on your blood sugar:

- 55 or less = low (good)
- 56 - 69 = medium
- 70 or higher = high (bad)

GLYCEMIC INDEX AND GLYCEMIC LOAD OF TYPICAL FOODS³

FOOD	GI (GLUCOSE = 100/SERVING)	GL/SERVING
Bakery products and breads		
Sponge cake (plain)	46	17
Bagel (white, frozen)	72	25
Whole wheat bread*	71	9
Beverages		
Sports drink	78	12
Orange juice (unsweetened)	50	12
Tomato juice (canned)	38	4
Oats and rice		
Oatmeal*	55	13
White rice*	73 ± 4	43
Brown rice*	68 ± 4	16
Dairy products and alternatives		
Ice cream (regular)	57	6
Milk, full fat	41	5
Reduced-fat yogurt with fruit*	33	11
Fruits		
Apple*	39	6
Banana (ripe)	62	16
Watermelon	72	4
Vegetables		
Baked russet potato*	111	33
Sweet potato*	70	22
Beans and nuts		
Black beans	30	7
Peanuts*	7	0
Pasta and noodles		
Fettucini*	32	15
Macaroni and cheese	64	32
Snacks		
Microwave popcorn (plain)*	55	6
Potato chips*	51	12
Miscellaneous		
Hummus (chickpea salad dip)	6	0
Honey*	61	12

*Average

THE CONSEQUENCES OF HIGH GI AND GL

A U.S.A. ecologic study of national data from 1909 to 1997 found that the increased consumption of refined carbohydrates in the form of corn syrup, coupled with the declining intake of dietary fiber, has paralleled the increased prevalence of type 2 diabetes in the U.S.A.¹

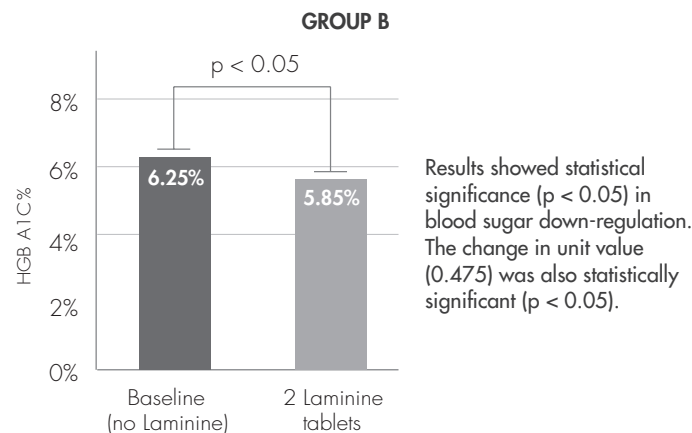
A recent updated analysis of three large U.S.A. cohorts indicated consumption of foods with the highest versus lowest GI was associated with a risk of developing type 2 diabetes that was increased by 44 percent in the Nurses' Health Study (NHS) I, 20 percent in the NHS II and 30 percent in the Health Professionals Follow-up Study (HPFS).²

Additionally, the consumption of high-GI foods that are low in fiber (like typical cereal brands) were associated with a 59 percent increase in diabetes risk, compared to low-GI foods (such as high-fiber cereal brands.)

HOW DOES LAMININE AFFECT SLIGHTLY HIGH TO NORMAL SUGAR LEVELS?

A preliminary, small pilot study indicated taking Laminine might be supportive to those who were beginning to show signs of slightly elevated normal blood sugar.⁴ The subjects selected for the study had blood sugar levels within the high-normal range. Statistical evaluation showed Laminine reduced slightly high normal blood sugar levels.⁴

Participants with High-Normal Blood Sugar supplemented for 12 weeks with one Laminine capsule twice daily (one in the a.m and one in the p.m) showed statistical significance in blood sugar down-regulation (n=4)



[Learn more about Laminine](#)

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

REFERENCES

1. Gross LS, Li L, Ford ES, Liu S. Increased consumption of refined carbohydrates and the epidemic of type 2 diabetes in the United States: an ecologic assessment. *Am J Clin Nutr.* 2004;79(5):774-779.
2. Bhupathiraju SN, Tobias DK, Malik VS, et al. Glycemic index, glycemic load, and risk of type 2 diabetes: results from 3 large US cohorts and an updated meta-analysis. *Am J Clin Nutr.* 2014;100(1):218-232.
3. The complete list of the glycemic index and glycemic load for more than 1,000 foods can be found in the article "International Tables of Glycemic Index and Glycemic Load Values: 2008" by Fiona S. Atkinson, Kaye Foster-Powell, and Jennie C. Brand-Miller in the December 2008 issue of *Diabetes Care*, Vol. 31, number 12, pages 2281-2283.
4. Dr. Andujar, Physicians' Desk Reference, Jan. 2016: 2220-2222.