

Glycemic Index

What is the Glycemic Index?

The glycemic index (GI) gives rankings of food based on how fast a particular food is likely to raise blood glucose (blood sugar) levels in the human body. The numbers on the glycemic index are based on the glucose (the fastest carb next to maltose) value of 100 with other carbohydrate foods assigned numbers relative to glucose. Carbohydrate foods that assimilate rapidly during digestion have the highest glycemic indexes, as their blood sugar response is fast and high. Conversely, carbohydrate foods that assimilate slowly, gradually releasing glucose into the blood stream, have low glycemic indexes.

Calculating the GI of foods

Most of us eat meals comprised of foods that contain varying carbohydrate amounts along with fat, fiber, protein, and other nutrients. The glycemic index of a meal will show the GI of each carbohydrate food in the meal, as well as their proportional contribution to the meal's total carbohydrate. The GI only applies to the carbohydrate servings in a meal, but even if the servings are comprised of different foods, the glycemic index of the entire meal can be easily calculated using the following steps:

1. Determine the amount of carbohydrates in each food.
2. Add the total carbohydrate grams.
3. Find the percentage of the total carbohydrate grams contributed by each food.
4. Multiply that percentage by the food's GI.

Example:

Your breakfast includes a bowl of whole grain cereal with fat free milk.

1. whole grain cereal = 23g + fat free milk = 13g
2. $23 + 13 = 36$
3. $23 \div 36 = 64\%$ (cereal); $13 \div 36 = 36\%$ (milk)
4. $54 \times .64 = 35$ (cereal's GI); $32 \times .36 = 12$ (milk's GI)

It is important to know that if the only carbohydrate in a meal has a high GI, the total GI for the whole meal is high. However, by including a low GI food along with the high GI food, the effect on a meal may be favorably balanced.



The Glycemic Index of Various Foods

CARBOHYDRATE FOOD	GI	CARBOHYDRATE FOOD	GI
Breakfast Cereal		Fruit	
all bran	51	dates	103
cornflakes	84	pineapple	66
raisin bran	73	cantaloupe	65
oatmeal	49	papaya	58
Pasta & Grains		mango	
basmati rice	58	banana	55
brown rice	55	grapes	46
converted rice	44	orange	44
short grain, white rice	72	peach	42
spiral pasta	68	plum	39
spaghetti	44	apple	38
ravioli	39	pear	38
egg fettuccine	32	apricot	31
Breads		grapefruit	
rye bread	76	cherries	22
plain bagel	72	watermelon	7
white bread	70	raisins	6
whole-wheat bread	69		
pita bread	57		
sourdough bread	52	Legumes	
whole-grain bread	51	baked beans	48
Vegetables		navy beans	
baked potato	90	chickpeas	33
red potato	88	butter beans	31
French fries	75	lentils	30
beets	69	kidney beans	27
new potato	62	soy beans	18
sweet corn	55		
sweet potato	54		
yam	51	Snacks & Candy	
Dairy		pretzels	
ice cream	61	jelly beans	80
ice cream, low fat	50	corn chips*	72
chocolate milk	34	popcorn	55
yogurt, low fat	33	potato chips*	54
skim milk	32	chocolate*	49
whole milk	22	peanuts	14
		Sugars	
Beverages		maltose	
sports drink	78	glucose	100
soda	68	sucrose	65
orange juice	46	honey	58
apple juice	40	lactose	46
		fructose	23

Glycemic Index (continued)

Why Know the GI of Carbohydrate Foods?

Low GI Foods:

- Provide a slower, gradual rise in blood glucose
- Can help to control diabetes
- Can help to improve sensitivity to insulin
- Can help with weight loss

High GI Foods:

- Can raise blood glucose levels following a brief period of intense exercise

Make the Switch!

- Whole or cracked grain breads instead of white or whole-wheat breads
- Firmer cooked pasta instead of longer cooked, limp pasta
- Basmati or converted rice instead of sticky or regular white rice
- New potatoes instead of large, fluffy baking potatoes
- Avoid foods and beverages with high-fructose corn syrup
- Avoid pure, granulated fructose as a table sugar substitute

Glycemic Index Ranges (glucose = 100)

Low-GI Foods	(below 55)
Intermediate-GI Foods	(between 55 and 70)
High-GI Foods	(more than 70)



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