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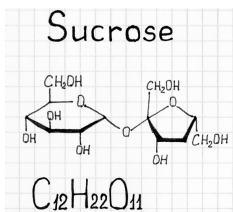
A LOOK AT SUGAR AND YOUR CONSUMPTION

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Glucose, fructose, sucrose... there are a multitude of **simple carbohydrates**, that gives our food the **sweet taste** that many people appreciate. In addition to sweet products, most processed food that are not considered sweet (ready-made meals, condiments, etc.) can also contain added sugar and therefore **contribute to increasing the individual's daily consumption** of sugar. Excessive consumption of sugar is a **real public health problem**, as it encourages the onset of various pathologies.



What is sugar?



Chemically speaking, the term "sugar" refers to simple carbohydrates: monosaccharides and disaccharides. **Glucose, fructose and galactose** are the three main monosaccharides, they form the **basic unit** from which disaccharides and more complex carbohydrates are built. Compared with simple carbohydrates, more complex carbohydrates, found in starchy food, provide energy that can be assimilated more slowly by the body and therefore lasts longer. Simple carbohydrates are naturally present in food such as vegetables, fruits and milk, but can also be added during food preparation and processing.

In everyday language, **sugar** or table sugar corresponds to **sucrose or sacharose** and is composed of **50% glucose and 50% fructose**. It is extracted from sugar cane or sugar beet.



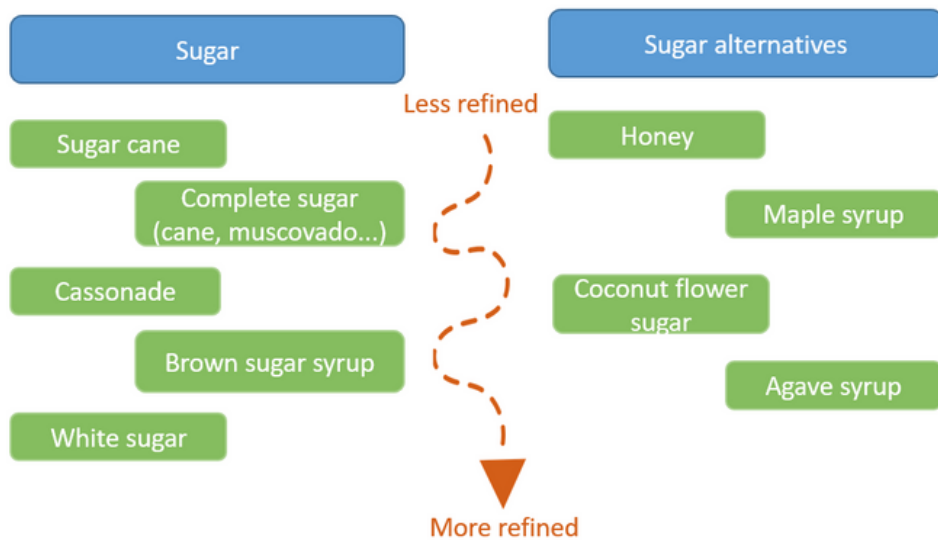
In the food industry, sugar is used to **give a sweet taste to products**, but also to extend their **shelf life**, add **color** or give them a more **palatable texture and flavor** (increases palatability).

The different kinds of sugar

Sugar comes in **many forms**, with different sucrose contents, and depending on its degree of processing, sugar can be **more or less refined**. The more sugar undergoes processing ("purification and discoloration"), the more refined it becomes.



Not all white sugars are refined (example: beet sugar).



It's best to choose the **least refined natural sugars** because, unlike refined sugars, they include a variety of **bioactive compounds, minerals, fiber, antioxidants, vitamins and phytochemicals** that are beneficial to health.

Sugar and glycemia

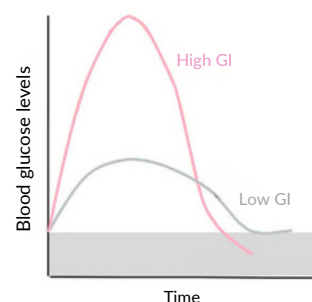
Not all sweeteners have the same **sweetening power** or **caloric load**. In addition to that, depending on the type of sugar, the **glycemic index*** will not be the same.

		Sweetening power	Glycemic Index
Monosaccharides	Glucose	50	100
	Fructose	150-180	19-23
	Galactose	26	23
Disaccharides	Maltose	40	105
	Sucrose	100	61-65
	Lactose	20-40	46

Note: Depending on their composition, sugar alternatives will also have a different glycemic index. For example, in equal quantities, white sugar has a higher glycemic index than honey, which in turn has a higher glycemic index than agave syrup.

For an equivalent quantity of food, the higher the glycemic index, the quicker it will induce a **sensation of hunger due to the glycemic spike it provokes**. A high consumption of food with a high glycemic index (GI>70) could lead to the **onset of various pathologies** such as diabetes, obesity or cardiovascular disease. It can also increase the risk of **food addiction****.

It's important to note that when sugar is integrated into a food, its glycemic index changes. For the **same amount of sugar**, eating added sugar leads to a higher rise in blood sugar levels than eating a fruit. In fact, **the fruit's fibers help reduce the peak of blood sugar**.




It is therefore always preferable to consume **sugar naturally contained in food**, as the **glycemic index will be lower** and, unlike added sugar, this consumption will also provide the body with **essential micronutrients** (e.g. vitamins, minerals...).

* Glycemic index: corresponding to the capacity of a food or substance to increase glycemia (blood glucose level).

**The term food addiction is defined as a loss of control over eating, the inability to reduce/control consumption despite the will to do so.


Recommendations

The French National Agency for Food, Environmental and Occupational Health Safety (ANSES) recommends that adults consume **no more than 100g of total sugar per day** (simple carbohydrates naturally present in food + added sugar). They also recommend that adults consume no more than one sugary drink a day.



Adults:
 <100g total sugar/day
 <50g added sugar/day including no more than one sweetened beverage

As a reminder, starchy food are not included in these recommendations, as they are made up of complex carbohydrates.



1 square ≈ 1 level teaspoonful ≈ 5 grams of sugar

The WHO recommends reducing the consumption of added sugar to less than 10% of total daily energy (ideally <5%); 50g for an energy intake of 2000 kcal (ideally <25g).

20-30% of French people have a total sugar intake that exceed 100 g/day


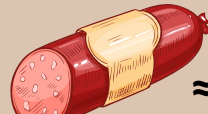










Added sugars, unlike sugar naturally present in food, have no health benefits and increase the calorie intake, but also the eating pleasure which is essential to a balanced and healthy lifestyle. **Added sugar should therefore be limited, but not necessarily banned from the diet.**



Where can we find hidden sugar?

The main source of added sugar are **sugary drinks** (sodas, fruit juices, sweetened coffees, hot chocolates, etc.), **desserts** and **sweet snacks** such as pastries, cookies and ice creams, as well as breakfast cereals and yogurts. **All sweet processed products contain added sugar**, but this is also the case for the **majority of savory processed products** (sauces, condiments, cans, etc.), as well as all ready-made meals (lasagne, fish, etc.).

Here are a few examples of food containing hidden sugar and its quantity, represented as a sugar square (5g):

<p>Canned vegetables</p>  <p>1 can of sweet corn (285g)</p>	<p>Industrial charcuterie</p>  <p>1 dried sausage (250g)</p>	<p>Condiments</p>  <p>1 paket= 1 tablespoon ketchup</p>	<p>Bread</p>  <p>2 slices of pain de mie</p>
<p>Tomato sauce</p>  <p>200g tomato basil sauce</p>	<p>Breakfast cereals</p>  <p>1 handful = 50g granola</p>	<p>Ready-made meals</p>  <p>300g lasagne bolognaise</p>	<p>Sweetened yogurt</p>  <p>1 jar (125g)</p>
<p>Flavored water</p>  <p>1 glass of 250ml</p>	<p>Sweetened dried fruit</p>  <p>1 handful = 50g dried fruit</p>	<p>Energy drink</p>  <p>1 can (250ml)</p>	<p>Sweetened coffees</p>  <p>1 cup cappuccino (250ml)</p>

Tips for reducing your sugar intake

Here are a few tips to help you reduce your intake of added sugar:

- Cook your own meals
- Limit ultra-processed products
- Limit sugary drinks (soft drinks, energy drinks, sweetened coffees...)
→Maximum 1/day
- Read nutritional labels to identify the presence of sugar
- Prefer plain sugar-free yogurts
- Substitute sugar with fruits in your preparations to sweeten them (yogurt, cakes...)
- Use spices in your desserts (cinnamon, vanilla, aniseed...)
- Prepare your own flavored water (lemon, basil...)
- For dessert, opt for fruit and unsweetened yogurt



Sugar consumption and health risks

Excessive sugar consumption, whatever its form, **increases the risk of various pathologies**. In addition to that, it can **induce changes in the intestinal microbiota**, contributing to increased **inflammation** and hence the onset of multiple pathologies.



Conclusion

Naturally sweet food, such as fruit, are an **essential part of a balanced diet** and help keep the body in good health, due to their **micronutrient content**. Added sugars, on the other hand, have no health benefits and, if consumed in excess, can promote the onset of various pathologies (whatever their form: sugar alternatives, sweeteners, etc.).

However, it is important to point out that a balanced diet also includes the **hedonic dimension, and the pleasure of eating**. Added sugar should therefore be limited and consumed in moderation, but not necessarily banned from the diet.

Furthermore, while artificial sweeteners provide fewer calories, they also entail health risks and have no effect on weight loss or the onset of diabetes.

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