

## **Health & Nutrition Sciences**

# **Facts About Caloric Sweeteners**

#### **Common Caloric Sweeteners for Beverages:**

Sugar (sucrose or table sugar), high fructose corn syrup (HFCS), honey and agave

### What Is Sugar (Sucrose or Table Sugar)?

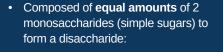
• Extracted from sugar cane or sugar beets.

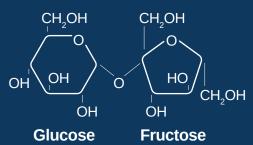
Sugar cane Sugar beets



- · Raw sugar is similar to refined sugar:
  - Both sugars are calorically identical and do not contain preservatives or additives
  - Differences: boiling process, crystal size, molasses content
- · Contains 4 calories per gram









### **How Are Added Sugars Different From Free Sugars?**

- Added sugars aren't in foods naturally—they're added. They include: sugars and syrups that food manufacturers add to
  products as well as those that we add ourselves.<sup>1</sup>
- Free sugars include sugars that are added to foods and beverages plus sugars that are naturally present in honey, syrups and fruit juices.<sup>2</sup>

### How Are Other Caloric Sweeteners Different From Sucrose (Table Sugar)?

- · Composed of the same two monosaccharides as sucrose, however the ratio can change.
- · Calorically comparable to sucrose.
- Due to their similarities in structure and energy content, recent studies have shown that it is unlikely that there are differences between caloric sweeteners in their effects on health.<sup>3-6</sup>









**HFCS** 

**AGAVE** 

HONE

SUCROSI

Origin	Made from corn	Made from fluid inside the blue agave plant	Made from bees using nectar from flowers	Made from sugar cane or sugar beets
Fructose / glucose content	55/45%	~91/9% <sup>7</sup>	~57/43%8	50/50%
Other components	N/A	Small amounts of inulin, vitamin C and B vitamins	Small amounts of maltose, antioxidants & antibacterial compounds	N/A
Sweetness potency (relative to sucrose)9	1.1x	1.3x	1.1x	1x



## **Health & Nutrition Sciences**

#### **Practical Recommendations for Added Sugar Reduction**

Dietary guidelines by some governments and authoritative bodies recommend limiting added sugars. Added sugars can be enjoyed as part of a healthy diet when consumed in moderation.



The average intake of added sugars in the US population are more than 13% of total energy per day. This exceeds the Dietary Guidelines for Americans added sugars recommendation of 10% of calories or less.

## Tips for Cutting Down on Added Sugars



Substitute some of your caloric beverages for water or carbonated water



If you like full calorie sugar-sweetened beverages, consider drinking a smaller portion



Replace a full calorie sugar-sweetened beverage with a low or no calorie sweetened one



Enhance breakfast cereals with spices or savory proteins instead of brown sugar



Compare food labels and choose products with positive nutrients



Instead of cookies or candy try Greek yogurt with fresh fruit

#### References:

- 1. U.S. Department of Agriculture and U.S. Department of Health and Human Services. Dietary Guidelines for Americans. 2020-2025. 9th Edition. 2020. Available at: DietaryGuidelines.gov.
- 2. World Health Organization. Guideline: sugars intake for adults and children. Geneva, Switzerland: World Health Organization; 2015
- 3. Lowndes J, Sinnett S, Yu Z, Rippe J. The effects of fructose-containing sugars on weight, body composition and cardiometabolic risk factors when consumed at up to the 90th percentile population consumption level for fructose. Nutrients. 2014;6(8):3153-68.
- Lowndes J, Sinnett S, Pardo S, Nguyen VT, Melanson KJ, Yu Z, Lowther BE, Rippe JM. The effect of normally consumed amounts of sucrose or high fructose corn syrup on lipid profiles, body composition and related parameters in overweight/obese subjects. Nutrients. 2014;6(3):1128-44.
- 5. Bogdanov S, Jurendic T, Sieber R, Gallmann P. Honey for nutrition and health: a review. J Am Coll Nutr. 2008;27(6):677-89.
- Edwards CH, Rossi M, Corpe CP, Butterworth PJ, Ellis PR. The role of sugars and sweeteners in food, diet and health: Alternatives for the future. Trends Food Sci Technol. 2016;5:158-166.
- 7. Willems JL, Low NH. Major carbohydrate, polyol, and oligosaccharide profiles of agave syrup. Application of this data to authenticity analysis. J Agri Food Chem. 2012;60(35):8745-8754.
- 8. da Silva, Gauche C. Gonzaga LV. Costa ACO, Fett R. Honev: Chemical composition, stability and authenticity. Food Chem. 2016;196;309:323.
- 9. Nutrients Review. Sweeteners. 2016. Available from: https://www.nutrientsreview.com/articles/sweeteners.html.