

Sugar: From Cane (and Beet) to Crystal

Sugar, universally known and consumed, is far more than a simple sweetener. Behind its white crystals lies a complex economic, industrial, and geopolitical history. From medieval rarity to modern mass production, sugar alone illustrates the dynamics of global trade, climatic hazards, and agricultural market fluctuations.



1. Origins: From Honey to Cane, then to Beet

Historically, honey was the main sweetener for ancient civilisations. But the appearance and expansion of sugarcane, originating in New Guinea and then spreading to Asia, India, and the tropics, allowed for the "production of sugar without bees". With the great discoveries, cane became established in tropical colonies, and sugar became a leading colonial commodity.

At the end of the 18th century, the discovery of the sweetening capacity of sugar beet, and its development in Europe (notably under the effect of commercial constraints and continental wars), made it possible to produce "temperate" sugar locally, which democratised sugar in temperate countries. Since then, cane sugar and beet sugar have coexisted on the world market.

2. From Plant to Crystal: The Manufacturing Process

The sugar production process, whether from cane or beet, follows these major steps:

- Extraction of the sugary juice: crushing of canes or crushing + diffusion of beets.
- Purification of the juice (elimination of impurities, filtration, clarification).
- Concentration by evaporation.
- Crystallisation of sucrose.
- Drying, refining (if necessary), packaging.

Ultimately, refined sugar, whether from cane or beet, is chemically identical: sucrose. The modern industrial process allows for large quantities to be processed and standardised quality to be ensured, but the final quality (crystalline white, purity) depends on the rigour of the purification and refining steps.

3. A Strategic Global Market (2023–2025): Production, Consumption, and Balance

Recent Global Data

- For the 2024/2025 sugar campaign, according to the International Sugar Organisation (ISO), global production is estimated at ≈ 175.5 million tonnes and global consumption at ≈ 180.4 million tonnes, implying an initial deficit of approximately 4.8 million tonnes.
- In its November 2025 revision, the ISO anticipates a slight global surplus of approximately 1.6 million tonnes for 2025/2026: a sign of a possible return to equilibrium, depending on harvest conditions and agricultural policies.

Volatility & Instability: A Sensitive Market

The sugar market remains subject to strong fluctuations. Several factors contribute to this volatility: climatic hazards (droughts, excessive rainfall), production orientation (sugar vs. bioethanol), political decisions, global demand variations, logistical costs, export warping, etc.

Even in the event of a production recovery, short-term imbalances (stocks, transport, exports) can generate price tensions.

4. Trends & Structural Dynamics: What Weighs on Sugar

- Sugar remains a staple food commodity in many countries: its global demand is structurally high.
- The competition between cane and beet offers geographical diversification (tropical zones for cane, temperate zones for beet), which contributes to supply resilience.
- Sugar is also used as an industrial and energy raw material. Depending on the country, part of the cane harvests is dedicated to ethanol production: this link between the sugar and energy markets influences production decisions, exports, and volatility.
- International regulations, quotas, subsidies, agricultural policies, and national decisions can strongly influence global flows, exports, and supply/demand balances.

5. Challenges 2025–2030: Risks & Opportunities

Opportunities

- If the stabilisation of supply is confirmed, sugar prices could regain a certain serenity: interesting for food markets, beverages, and the agro-industry.
- Possible diversification: cane sugar, beet, bioethanol, recycling, co-products: this can cushion shocks and offer alternative outlets.
- Sustained global demand: growing population, industrialisation, which guarantees a structurally solid market.

Risks & Challenges

- High climatic risk: drought, weather hazards, climate change: this can strongly impact harvests and thus global supply.
- Sensitivity to economic cycles, energy prices, competition with ethanol, production costs, which makes the activity unstable for producers.
- Dependence of consumer/importer countries on international markets: price volatility can affect consumers and supply chains.
- Need for diversification, innovation to maintain the profitability and sustainability of the sector, particularly in the face of environmental and social challenges.

Conclusion

From tropical cane or European beet, from artisanal mills to modern factories, sugar embodies a commodity that is both simple in form and complex in its dynamics. It is a marker of global trade, industrialisation, agricultural choices, but also of climatic fragility and geopolitical issues.

Today, sugar is at a turning point: the market is globally stable but fragile. Harvests, agricultural policies, energy choices, and international flows will need to be monitored. For an investor or an observer of the agricultural market, sugar remains a strategic raw material, subject to economic and climatic cycles, but with a central role in global food supply.

Sources

- International Sugar Organisation (ISO), Sugar Yearbook 2025. 2025. <https://www.isosugar.org/publication/425/iso-sugar-yearbook-2025>
- Agence Ecofin, "Sugar: a record global deficit announced for 2024/2025". 2025. <https://www.agenceecofin.com/actualites-agro/1403-126675-sucre-un-deficit-mondial-record-annonce-pour-2024/2025>
- La France Agricole / Terre-Net, "The global sugar market shifts to a slight surplus for 2025/26". 2 December 2025. <https://www.terre-net.fr/betterave/article/891004/le-marche-mondial-du-sucre-bascule-vers-un-leger-excedent-sur-2025-26>
- Willagri, "Record drop in global sugar supply". 2025. <https://willagri.com/2025/03/18/baisse-record-de-loffre-mondiale-du-sucre/>