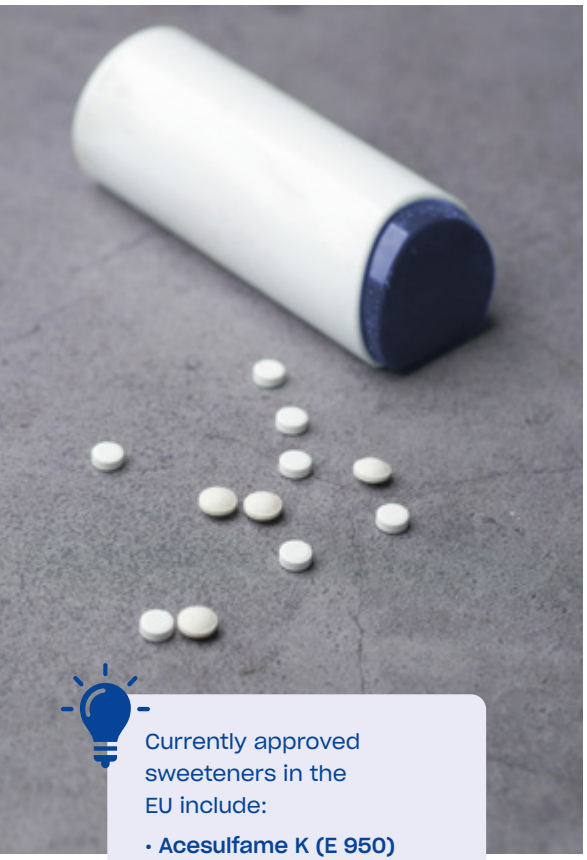
Pfeifer & Langen

FARM TO FORK by Pfeifer & Langen

Beet Sugar or Sweeteners

Fact Sheet

Who leads when it comes to sustainable nutrition?



Currently approved sweeteners in the EU include:

- **Acesulfame K (E 950)**
- **Aspartame (E 951)**
- **Advantame (E 969)**
- **Cyclamate (E 952)**
- **Saccharin (E 954)**
- **Sucralose (E 955)**
- **Steviol glycosides (E 960)**

What are sweeteners?

Sweeteners are mostly **synthetically produced sugar substitutes with no calories**. Consumption of sweeteners has increased worldwide. They are being used more frequently in the reformulation of food products, especially beverages – partly to avoid sugar taxes, such as those implemented in the UK.

Do sweeteners actually promote weight loss?

Although they contain no calories, **sweeteners do not support longterm weight loss**. On the contrary, numerous studies raise concerns that longterm sweetener consumption may be associated with overweight and related diseases. As a result, the World Health Organization (WHO) recommends **not using sweeteners for weight control or to reduce the risk of diet-related** diseases.[4,5]

Beet sugar vs. sweeteners – direct compariso[1,2,3]

Beet Sugar	Sweeteners
Natural food	Food additive with an E-number
Raw material is sugar beet	Raw materials typically not of natural origin
Sugar is extracted using water	Complex chemical production process
Contains nutrients (carbohydrates)	No nutritional value
No upper limit for daily intake, only general intake guidelines	Acceptable Daily Intake (ADI) limit applies
Offers various techno-logical benefits (shelf life, volume, taste)	Limited use in foods (often masks off-flavors)
Cariogenic	Non-cariogenic
Moderately affects glucose and insulin levels	No positive effect on glucose or insulin levels
Regional, responsible supply chain	Often sourced from Asia, long supply chains

Are sweeteners safe for health?

Sweeteners are evaluated by the European Food Safety Authority (EFSA) for their safety. **Maximum levels for use in food are established.** However, new scientific findings frequently lead to reevaluations. Topics under investigation include negative impacts on gut bacteria, genotoxicity, the influence on carcinogenesis, and exceeding acceptable daily intake due to increasing consumption.[3,6,7,8,9]

Are sweeteners a burden on the environment?

The EFSA has found that sweeteners are present in **high concentrations in the environment.** They have been detected in the atmosphere, oceans, soil, tap water, rainwater, and wastewater. Because **sweeteners are poorly biodegradable** and are being used more frequently, accumulation in the environment may increase, leading to problems such as: [10,11,12]

- ✗ Constant exposure
- ✗ Increased sweetener uptake
- ✗ Toxicity to aquatic life and ecosystems

Is the safety of sweeteners being criticized?

There is still **significant need for research** on how **sweeteners affect the human body.** It is not possible to assess intake levels because they are not declared on the nutrition label. Safety evaluations are conducted individually for each sweetener, but combined effects remain unclear. [8,9,13]

Conclusion: beet sugar vs. sweeteners

Compared to beet sugar, sweeteners show significant disadvantages, particularly regarding naturalness and environmental sustainability. Their health safety and added value in a healthy diet are debated.

Sweeteners:

- ✗ are additives, not natural.
- ✗ are not regionally sourced.
- ✗ do not support weight loss.
- ✗ are subject to ongoing safety re-evaluation.
- ✗ may have environmental consequences.

Sources (as of April 2025): [1] Atkinson et al.: International tables of glycemic index and glycemic load values, 2008; [2] Azad et al.: Nonnutritive sweeteners and cardiometabolic health, 2017; [3] Méndez-Garcìa et al.: Ten-Week Sucralose Consumption Induces Gut Dysbiosis and Altered Glucose and Insulin Levels in Healthy Young Adults, 2022; [4] WHO: Health effects of use of non-sugar sweeteners: a systematic review and me-ta-analysis, 2022; [5] WHO Guideline: Use of non-sugar sweeteners, 2023; [6] EFSA: Call for Data on geno-toxicity data on sweeteners, 2021; [7] Debras et al.: Artificial sweeteners and cancer risk: Results from the Nu-triNet-Santé population-based chort study, 2022; [8] https://www.lebensmittelklarheit.de/informationen/steviolglycoside-suessstoffe-aus-der-stevia-pflanze, 15.8.2024; [9] https://www.bzfe.de/lebensmittel/einkauf-undkennzeichnung/novel-food/steviakraut-und-stevia-extrakte/, 05.11.2022; [10] Li et al.: Young population consume twice as much artificial sweetener than the general pop-ulation – A wastewater-based assessement in China, 2022; [11] Umweltbundesamt, SZB, Kurzdossier Spurenstoffe: Acesulfam-K (E950) und Sucralose (955), 05.2024; [12] EFSA: Review and synthesis of data on potential environmental impact of artificial sweeteners, 2021; [13] BfR: https://www.bfr.bund.de/de/suessungsmittel_in_lebensmitteln_ausgewaehlte_fragen_und_antworten-311913.html, 04.10.2023.

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