



#### Meet the Sweet family.

The Sweet family is rather sceptical about sweeteners.

They're said to cause cancer, make you fat and cause diarrhoea - at least,
that's what it says on the internet, and their friends have told them about it too.

Reason enough to carefully examine the 12 biggest sweetener myths in this brochure together with the Sweet family.

## The biggest sweetener myths revealed

Sweeteners are among the most strictly controlled food additives ever. They have been repeatedly checked by the European Food Safety Authority (EFSA) and classified as harmless by the respective regulatory authorities. Namely for adults, as well as for children and pregnant women. Although they have long been disproved, some myths surrounding sweeteners stubbornly persist. The result is that some consumers believe that sweeteners are not safe, or even that they are partly responsible for the emergence of obesity. Quite the opposite is true.

Sweeteners don't have any calories, nor do they have a negative effect on dental health or blood sugar levels. Therefore sweeteners can contribute to a delicious and nutritionally balanced diet, improving many people's quality of life.

With this booklet, we would like to clearly address the most common questions and preconceptions about sweeteners and answer them in a coherent way.

Would you like to know more?
Visit our german websites
www.suessstoff-verband.info and
www.so-suess-wie-du.de – we will
gladly answer your queries there.

#### Isabelle Begger

Chairman of the Sweetener Association Germany, Austria and Switzerland (Registered Association)







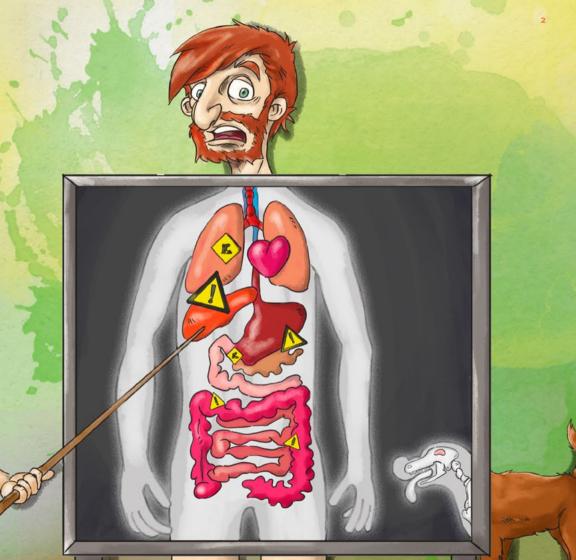


**Actually:** Sweeteners activate sweet receptors on the tongue. So we taste something sweet – that's all. During digestion, sweeteners are excreted almost unchanged or simply broken down into their constituent parts. They do not interfere with the metabolism.

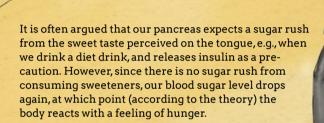
Sweeteners differ in their chemical structure and so are subject to different degradation and excretion processes in the body. Knowledge about the metabolic pathways of each individual sweetener is a prerequisite for safety assessments and approval by food authorities worldwide.

#### But doesn't methanol form when consuming aspartame?

The fact is that a glass of tomato juice contains 5 to 6 times more methanol than a glass of a diet drink sweetened with aspartame. In addition to aspartame, methanol is found in numerous natural foods and, in these very small quantities, has no effect on bodily functions, and certainly cannot be considered toxic.







#### It's not possible to trick the pancreas!

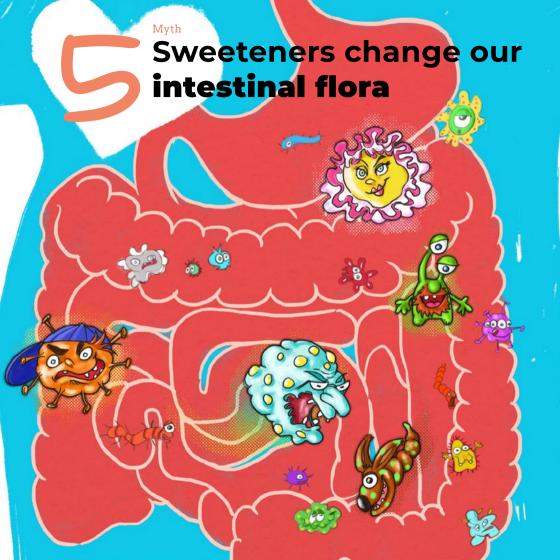
Multiple studies have shown that sweetened water has the same effect as pure water in the body: the blood sugar and insulin level parame-

ters, as well as gastric emptying, remain unchanged. A sensation of intense hunger does not occur. For example, one study showed that biscuits sweetened with sweeteners are just as satiating as those sweetened with sugar, but produce lower insulin and blood sugar levels.

### Sweeteners do not increase the desire for sweet food

Acute or long-term exposure to sweetness does not necessarily lead to an increased preference for sweetness. This was the result of a recent survey study. On the contrary, 'specific sensory satiety' tends to reduce preference for sweetness.





#### Actually: Sweeteners probably have no negative impact on the bacteria in the gut.

Intestinal flora is a complex system and is generally influenced by many different factors, including lifestyle, stress, nutrition and medication. This makes it difficult to attribute changes to a specific factor in the diet, such as sweeteners.

## Do studies prove that sweeteners alter the gut microbiome?

No, studies that indicate negative effects are due to flaws in their design or execution and therefore cannot be generalised. This is clearly demonstrated by a review article in the journal Food and Chemical Toxicology and was also confirmed by another review article in Advances in Nutrition in early 2019. The researchers concluded that the available studies do not provide clear evidence of any adverse effects of sweeteners on the human gut microbiome.

#### Humans are not rats

The authors examined 17 and 18 relevant primary research articles, respectively, in which the effect of sweetener intake on the gut microbiome was investigated. Most of them

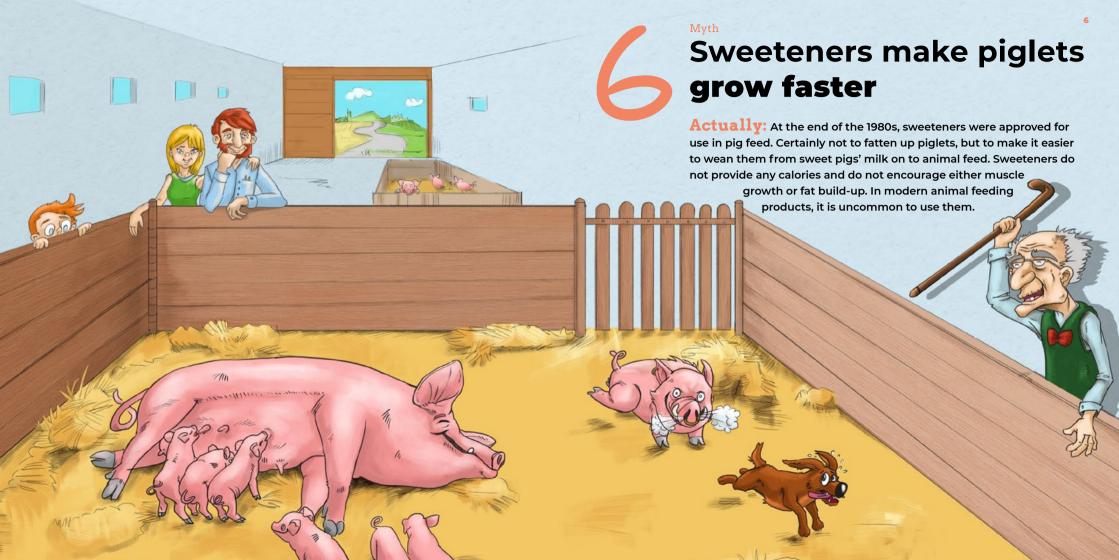
were animal experiments, principally with rodents. Only three studies were conducted with humans. However, animals are not to be equated with humans in this context, as they have different intestinal bacteria. Plus, the animals were given extremely high amounts of sweetener.

### Human studies do not take total food intake into account

In the three studies on humans, the scientists did not take into account what the test subjects had eaten over the course of the day. It is therefore not permissible to attribute the changes in the gut microbiome to sweeteners alone.

#### Not every sweetener ends up in the gut

Another argument put forward by the researchers is that some sweeteners are broken down before they enter the intestine, or do not enter the intestine at all.



#### Myth

## Sweeteners are dangerous for children and pregnant woman

Actually: Sweeteners can be consumed harmlessly by all types of people.

Before being approved for use in foods and drinks, sweeteners are tested extensively.

Only without any harmful effects whatsoever, including, for example, for pregnant women and unborn babies, will approval be granted.

#### Sweeteners and children

Most children love sweet things. Sweeteners mean that they can enjoy sweet things without taking in calories, damaging their teeth or affecting their blood sugar level. In spite of these positive attributes, the following is true: Sweet things should be enjoyed in moderation and sweeteners therefore, just like sugar, should be consumed only in children's portions.

#### Sweeteners during pregnancy

During pregnancy, women need twice as much of particular types of nutrients like folic acids and iron. At the same time, their daily calorie requirement only increases by 255 calories. Expectant mothers should therefore consume foods which are low in energy but rich in nutrients. This is where foods sweetened with sweeteners can help. They produce the same vitamins and minerals as foods sweetened with sugar, but contain about a third fewer calories.



Myth

# Sweeteners are all the same

Actually: Sweeteners have very different molecular structures, so don't expect there to be very many similarities. The raw materials and manufacturing processes used may also differ. But all sweeteners share certain properties that allow them to be called "sweeteners".

## Common characteristics of the sweetener family

What all sweeteners have in common is that they are able to activate the same taste receptors on the tongue as sugar, and therefore provide a sweet taste. However, they are much sweeter than sugar. What's more, all sweeteners are calorie-free or do not provide any calories for practical use. In other words, they do contain calories, but these can be neglected due to the small amount of sweetener used. Another criterion for a substance to be classed as a sweetener is that it does not cause a rise in blood sugar or insulin secretion, and is not carcinogenic. In other words, it does not provide any nourishment for oral bacteria.



#### Differences

Depending on the sweetener, the sweetening power is 30 to 37,000 times that of sugar. But this is not the only difference. Some sweeteners unleash their sweetness very quickly, whereas others do this gradually. With some sweeteners, the sweetness stays in the mouth for a very long time, or higher concentrations leave an after-taste. Some sweeteners can also act as flavour enhancers, e.g. which intensify citrus aromas.

In some cases, there are synergies between different sweeteners, which can lead to an even stronger sweetening power or a better sweetness profile. For this reason, sweetener mixtures are used in a wide range of products. Furthermore, sweeteners take a different route through the body. Some do not go into the intestines, i.e. they are broken down beforehand, and others leave the body unchanged via the intestines or kidneys.



Sweeteners cause diabetes

Actually: Sweeteners do not cause diabetes. In fact, the opposite: They improve the quality of life for many diabetics for whom, without sweeteners, their enjoyment of sweet things would be greatly reduced.

People with diabetes or an impaired glucose tolerance must be mindful of their diet and make sure that they get sufficient exercise. In contrast to sugar, sweeteners have the advantage that they produce a sweet taste without having any effect on blood sugar levels.

Furthermore, the American Diabetes Association has emphasised that 'sweeteners have the potential to lower the total intake of calories and carbohydrates'. For that matter, diabetics can include sweeteners in their everyday diet without having to count carbohydrates or calories.





#### You can find out more in our podcast

## so! was? süßes.

Did you know that the oldest sweetener, saccharin, is over 130 years old and was actually discovered by accident? We discuss this and lots of more exciting facts about the topic of sweet nutrition in our podcast so! was? süßes. Our hosts, Anja Roth (nutritionist and sweetener expert) and Carlotta Wehrmann (presenter), talk about everything to do with nutrition, sweet flavours and sweeteners. The guests on the podcast come from the world of sweetness, nutritional advice and science, sports, medicine or simply report from their sweet day-to-day lives.

You can find out everything worth knowing about the sweeteners approved in the EU on our online information portals. We can't wait for you to visit us!



Listen



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