



## Low-calorie sweeteners, more than just a sweet taste

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Low-calorie sweeteners are very popular with the weight and health conscious. Providing few or no calories they are the primary source of sweetness in low-calorie and sugar-free foods and beverages. When used wisely, these products can be useful for losing and controlling weight and for general health.

### Types of sweeteners

There are two main types of sweetener. The intense sweeteners such as acesulfame K (E 950), aspartame (E 951), salt of aspartame-acesulfame (E 962), saccharin (E 954), cyclamates (E 952), thaumatin (E 957), neohesperidine DC (E 959) and sucralose (E 955). The bulk sweeteners like sorbitol (E 420), mannitol (E 421), isomalt (E 953), maltitol (E 965), lactitol (E 966) and xylitol (E 967). Intense sweeteners are typically used as table top sweeteners and in beverages and are so intensely sweet that only a tiny amount is needed. The bulk sweeteners provide fewer calories weight for weight compared to sugar while having the same bulk or volume. Bulk sweeteners are useful for example when preparing low-calorie bakery products.

### No automatic weight loss

For many people sweeteners offer a means of enjoying the sweet taste and 'saving' calories at the same time. But the fact that sweeteners contain virtually no calories does not mean that their consumption automatically results in weight loss. There is evidence that when sugar-free products are substituted for regular sugar containing ones, there is no significant reduction in total daily calorie intake in healthy adults.<sup>1</sup> This suggests that the appetite kicks in and balances the books anyway. Just including sweeteners in the diet will not necessarily lead to spontaneous weight loss. Weight loss will only occur if overall calorie intake is reduced.

### Calorie controlled diets

One way to reduce calorie intake is to follow a low-calorie weight loss program. When counting calories, sugar-free and low sugar products can be a great help as they increase the variety of foods available to the dieter which can make it easier to stick to.

### Health consciousness

For many people sugar-free products are not necessarily consumed with weight-loss in mind, but as part of a general calorie or health consciousness.<sup>2</sup> If people are trying to maintain a healthy weight they may be using calorie trade-offs. For example by having a sugar-free drink instead of a sugar-containing one, they

feel they have built up enough 'calorie credit' to eat something they enjoy later in the day.<sup>1</sup> People also choose sugar-free alternatives when they wish to cut down on sugar or carbohydrates in their diet.<sup>2</sup>

## Safety margin

All sweeteners in food and drink sold in the EU have undergone thorough scientific testing and have been approved by the European Commission.<sup>3</sup> The amount of each sweetener allowed on a daily basis over a lifetime also has a huge inbuilt safety margin. Consumed in usual amounts, foods containing low calorie and bulk sweeteners are perfectly safe.

## Reap the benefits

By popular demand there are now a wide range of low sugar and sugar-free versions of food and beverages available.<sup>2</sup> Consumers choose these products for a variety of reasons such as weight loss, weight maintenance and to control sugar or carbohydrate intake. It is important to bear in mind that these products can only help with weight loss as part of a calorie controlled diet and that successful weight maintenance requires a healthy balanced diet and regular physical activity. Used sensibly sugar-free and low-sugar products can be an enjoyable and useful adjunct to a healthy diet.

## References

1. Holt SHA, Sandona N & Brand-Miller JC (2000). The effects of sugar-free and sugar-rich beverages on feelings of fullness and subsequent food intake. *International Journal of Food Sciences and Nutrition* 51:59-71
2. Lee S (1999). Consumer behaviour and attitudes towards low-calorie products in Europe. *World Reviews in Nutrition and Dietetics* 85:146-58
3. European Parliament and Council Directive 94/35/EC (1994). Sweeteners for use in Foodstuffs. *Official Journal of the European Communities* L237, 10.9.94: 3-12

## Addendum 13th November 2013:

- [Low calorie sweeteners are now regulated in the EU by Regulation \(EC\) No 1333/2008 of the European Parliament and of the Council of 16 December 2008 on food additives, as amended \(Official Journal of the European Communities L 354, 31.12.2008, p. 16\).](#)
- Steviol glycosides have been authorised for use as a sweetener in the EU since 2011. Steviol glycosides are the natural sweet components found in the leaves of the stevia plant.